

# 

The leader in network knowledge www.nwfusion.com

February 14, 2005 Volume 22, Number 6

#### A Wider Net

#### My day with Deke

Viewina VoiceCon through the eves of a network strategist.

**BY BOB BROWN** 

eke warned me: He wasn't like most of the other 4,500 attendees at last week's VoiceCon show.

As senior technology director for networking and telecommunications at the University of Pennsylvania, Deke Kassabian gets paid to figure out the best

long-term path for the school's network. He spends a lot more time on forward-looking and R&D projects such as Internet2

than on mucking around in wiring closets ■ VolP users share their stories at VoiceGon. Page 14. or answering beeper calls after midnight.

"My focus will probably not be nearly as pragmatic as the usual network or IT

director," said Kassabian, who has been with the university since 1995 and has attended VoiceCon several times.

See Deke, page 64

DAN VASCONCELLOS

# Show to spotlight new roles for Linux

BY JENNIFER MEARS

This week's LinuxWorld will focus on the maturity of the operating system, with high availability, workload management and large multiprocessor system news taking center stage.

Vendors such as Sun and HP and users such as Continental Airlines will detail what can be done with the open source platform beyond supporting the traditional infrastructure and file and print workloads.

Not that there won't be news around the core operating system. Red Hat is expected to unveil Red Hat Enterprise Linux 4.0, which is built on the 2.6 kernel and is aimed squarely at the cor-

#### **Linux love**

**IDC** expects that Linux server shipments will account for

of the server market in 2008, up from 15.6% in 2003.

porate data center.

Red Hat is months behind Novell/SuSE, which launched its 2.6-based SuSE Linux Enterprise Server 9 in August at LinuxWorld, but it is adding features of particular interest to enterprise customers. National Security Agencybacked Security-Enhanced Linux code will be integrated into the kernel, which will let users put applications in virtual containers and set policies and privilege rights for access to underlying Linux code and other applications.

While the show will feature many vendors talking about virtualization, high availability and workload management for scaleout Linux deployments — where multiple servers are pooled together to act as one resource there also will be talk about putting Linux on big symmetric multiprocessor systems, a capability now available in the 2.6 kernel.

See LinuxWorld, page 62

## **Cisco launches IPS offensive**

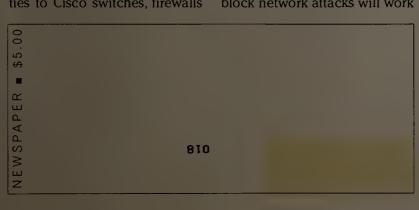
#### ■ BY ELLEN MESSMER

Cisco this week will announce its presence as a player in the intrusion-prevention system market with five appliances and software that adds IPS capabilities to Cisco switches, firewalls

The network-based IPS appliances, set for delivery next month, will range from a low-end 80M bit/sec offering to one that runs at a maximum 7G bit/sec, Cisco says. The ability to identify and block network attacks will work identically across the Cisco appliances, routers, switches and the PIX firewall. The new lineup, which will be unveiled at the RSA Conference in San Francisco, will pose an obvious threat to a growing field of competitors that includes Internet Security Systems, McAfee, Symantec, 3Com's TippingPoint Technologies, Top Laver Networks and start-ups such as V-Secure Technologies.

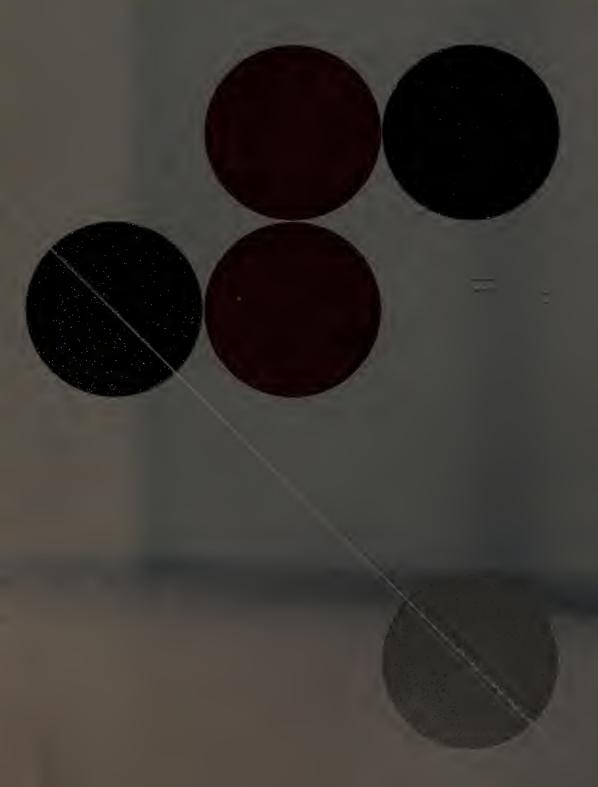
Concern about computer worms and automated attacks is prompting IT managers to deploy IPSs both at the Internet perimeter and inside the corporate LAN, in spite of the danger of

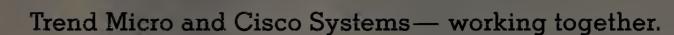
 Products that will debut this week at Demo will help keep data and networks secure. PAGE 44 Cool Tools editor Keith Shaw previews some of the hot items launching at the show. PAGE 46 Demonstrator profiles at www.nwfusion.com, DocFinder: 5831, and at the Demoletter Weblog: www.demo.com/demoletter See Cisco, page 10





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## **NetworkWorld**

## News

- **8 Grid** gaining enterprise attention.
- **8 Microsoft** sorting through its anti-virus, anti-spam strategy.
- 10 Vendors strengthen messaging security.
- **12** Users hope **Fiorina's ouster** will help in the long run.
- 14 Customers call on VolP in different ways.
- **14 Novell** lays out **GroupWise** road map.
- 16 Vendors roll out data replication, failover tools.
- 17 Tool 'mobilizes' unstructured data.
- **17 Identity software giveaway** aims to increase demand.

#### **Net Infrastructure**

- 19 IPS gaining ground over IDS.
- **19** Vendor layers on spam protection.
- **20 Kevin Tolly:** 'Dirt cheap' networking — the software
- **22 Special Focus:** Extending identity management's

#### **Enterprise Computing**

realm.

- **25** Start-up aims to extend Active Directory.
- **25** Ibrix touts suite for clustering Linux.

#### **Application** Services

- **27** IBM builds up software war
- **27** Ignite service helps deliver large files.
- **30** WebEx Web conferencing service gets convergence boost.
- **30 Scott Bradner:** Oedipus
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#### Service Providers

- 33 Experts offer network executives advice on how to navigate the shifting telecom landscape.
- **33** New Orleans school system among those learning broadband
- **36** GoRemote offering more mobile access options.
- 36 Johna Till Johnson: Hate Sarbox? . . . Blame Bernie Fhhers.

#### **Technology Update**

- **39** Modular operating system design cuts downtime.
- 39 Steve Blass: Ask Dr.
- 40 Mark Gibbs:
- Un-sidetracking from last week.
- ## 40 Keith Shaw: Cool tools, gizmos and other neat stuff.

#### **Opinions**

- **42 On Technology:** Grid computing worth a long look.
- 43 Ira Brodsky:
- Blogosphere vs. mainstream media. **43 Frank Dzubeck:** Can
- the Internet ever be trusted?
- 66 BackSpin: More selfishness.
- **66 'Net Buzz:** 'Net-style Nash Equilibrium explains why price-comparison Web sites work . . . and survive.

#### Management **Strategies**

■ **53** Battle of the budget: CFOs and business unit managers are angling to seize purchasing power from IT, but there are ways to fight

## **Features**

#### First looks at emerging technology:

This week's Demo@15 show spotlights more than 70 new technologies for enterprise and consumer users. We have a preview of some of the products set to launch at the prestigious trade show. Page 44.

Demo@15 will have a bevy of products to get a feel for such as Newtek's TriGaster, which is a portable live pro-duction video switcher and Web streaming appliance.



## www.nwfusion.com

#### Breaking News Go online for breaking news every day. DocFinder: 6342

#### **Available only on Fusion** Forum: Carly Fiorina's departure

Our readers aren't exactly broken up about the CEO's exit last week: "After living under her group of bumbling fools, 'good riddance' is the term that comes to mind," writes one. What do you think? Was Fiorina's ouster the right move or a big mistake?

#### DocFinder: 5854

#### **Network World Fusion Radio:**

**The state of HP, post-Fiorina**Terry Shannon of Shannon Knows High Performance Computing joins the program to discuss the reasons behind Carly Fiorina's departure from HP and the state of the company. DocFinder: 5855

#### **Gool Tools**

Can't get enough of gadgets and the latest personal productivity tools? Check out the Cool Tools Weblog, updated daily with the latest news and products by Senior Reviews Editor Keith Shaw. DocFinder: 5856

#### This week at *Network Life*: The Expert's **Guide to the Connected Home**

Every day, *Network Life* offers everything you need to know to keep your — and your family's and friends' — home network humming. Get the latest news, opinions, reviews, how-tos and more. DocFinder: 4838

#### **Network World Radio Podcasts**

Get the inside scoop on hot technology issues, such as inexpensive servers, WiMAX, network security design and more. If you're not into Podcasting, stream the sessions to your desktop or download them as MP3s. DocFinder: 5334

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#### **Online help and advice**

#### **Nutter's Help Desk**

Connecting with a VPN

Help Desk Guru Ron Nutter helps a reader investigate the benefits and drawbacks of cross-vendor VPN connections.

#### DocFinder: 5858

#### **Security Chief**

Paying through the nose Deb Raddiff looks at Microsoft's offering of a free malicious software-removal tool. Is it a great boon to users or a nightmare like the earlier built-in XP firewall? DocFinder: 5859

#### **Telework Beat**

Telework boosted by virtual call centers, Part 2 Net.Worker Managing Editor Toni Kistner says companies are left wide-eyed by potential bottom-line savings from virtual call centers. DocFinder: 5860

#### **Home Base**

Networking, old style

Columnist Sandra Gittlen urges the self-employed to get out of the house and see your business flourish. **DocFinder: 5861** 

#### **Small-Business Tech**

Moving up to a "real" router

Columnist James Gaskin examines the benefits and drawbacks SMBs find migrating to Check Point's new 400W from entry-level SOHO gear. **DocFinder: 5862** 

#### **Seminars and Events**

#### Network Mgmt./IT Automation and the Agile Enterprise: Tools to Bridge the Gap

Get ready to assemble key technologies in seven crucial management areas from applications and security to performance Webservices. Qualify to attend this free Live '05 Tech Tour Event in March, DocFinder: 5863

## News

#### Verizon, MCI talks said to be heating up

■ Verizon has made an informal bid for MCl, according to a report in *The Wall Street Journal*. The bid was made as part of talks between the two carriers and doesn't represent a firm offer, the newspaper reported, citing "people familiar with the situation." Discussions between the two carriers are still underway and have become "meaningful" in recent days, but they could fall apart, the paper said. According to the report, although no price was given, the deal is close to a \$6.3 billion offer Qwest made recently. News of the discussions comes a little more than a week after SBC said it plans to acquire AT&T in a deal worth \$16 billion.

#### Symantec to add spyware protection

■ Symantec plans to include spyware protection in its upcoming corporate anti-virus product, Symantec AntiVirus Corporate Edition 10.0, by the end of March. At the same time, Symantec also will add spyware eradication to its desktop security software, Symantec Client Security 3.0, which includes anti-virus, firewall and intrusion-prevention features. Symantec's intrusion-prevention gateway appliances, the Symantec Network Security 7100 Series, is also expected to be able to block programs such as Gator, Hotbar, and Trojan "bots" such as Gaobot, Spybot and Rxbot, although not a wide range of spyware types. Symantec said it won't charge extra for adding spyware protection to its corporate anti-virus software packages.

#### Microsoft touts displays on laptop lids

■ Microsoft wants PC makers to mount cell phone-like displays on the lids of laptop computers so users can check the time, battery status, appointments and for new e-mail without having to open and start up their laptops. The software maker is including support for such displays in the next version of Windows, code-named Longhorn, due out in 2006. Microsoft is developing software and reference designs for the displays, which it says will give users instant access to select data, and save time and battery life because there is no need to open and boot up the laptop. The display on the lid of a laptop would be similar to a color cell phone display and powered by the notebook battery. Data pulled out of applications would be stored in a special memory cache so it is also accessible when the laptop is turned off or in stand-by mode.

#### Skype software to be on mobile handsets

Skype Technologies' VolP software now will come installed on mobile handsets from

"I'm sorry, our Wi-Fi is down. You want a margarita, no salt, on the rocks . . . "



Tony Walton of Ellettsville, Ind., gets top honors in our latest caption contest. Join in the fun. New contest start every Monday: www.nwfusion.com/weblogs/layer8



#### TheGoodTheBadTheUgly



**Call to arms.** Vowing to attack spam and socurity vulnerabilities of Internet telephones before such risks become truly troublesome, the VolP Security Affaire made its public debut last week with two dozen charter members, including Acatel, Symantec and Columbia University.



Google drops a spot. A new survey of 2,000 ad executives finds Google knocked from its perch by Apple as the world's most influential brand. Why? An IPO is no match for the iPod. Fifth in the survey — and we're not making this up — was Al Jazeera. ➤



Didn't they Google it? You might think a company that made such a stink about Lindows would be more careful in choosing a name for its own work. Seems as though Microsoft failed to do so, however, before Bill Gates recently announced its EuroScience partnership at an event in Prague. Shortly thereafter the EuroScience Open Forum. 2,100-strong including Nobel laureates, started crying foul. Microsoft has apologized and is working with the group to reach some accommodation.



Carrier Devices' i-mate brand that are equipped with Wi-Fi, as well as cellular capability. Newly manufactured i-mate PDA2 and PDA2K Pocket PC phones will come with Skype's software for making calls over the Internet. The handsets will be equipped out of the box for users to start making Skype calls. The phones use Microsoft's Windows Mobile 2003 software for Pocket PCs and have GSM/GPRS and Wi-Fi wireless LAN capabilities. Carrier Devices also plans to put the Skype software in its i-mate JAM, a smaller version of the handset. With the Skype software, users can make calls over a broadband Internet connection through a Wi-Fi network, bypassing the provider of GSM/GPRS service.

#### **CTOs urge cybercrime commission**

■ A group of CTOs from major software vendors last week called on the Bush administration to convene a national commission to address cybercrime and identification theft. The 15 CTOs, whose companies are members of the Business Software Alliance trade group, met with congressional and White House leaders to discuss issues such as cybercrime, patent reform and more federal funding for research. The group asked officials, including John Marburger, director of the White House Office of Science and Technology Policy, and Phil Bond, undersecretary for technology in the Department of Commerce, to consider a cybercrime commission that would bring together computer users, lawmakers, enforcement officials and technology companies to talk about ways to fight ID theft and other online crime. A commission could address a variety of solutions, which includes public education, new legislation and international treaties, the CTOs said during a press briefing.

#### Microsoft delays CRM release

■ Microsoft's famously slippery ship dates are sliding once again when it comes to the company's long-delayed Microsoft CRM 2.0 update. Microsoft said last week it is expanding the software's feature set and delaying its release-to-manufacturing until the fourth quarter. The move comes one week after Microsoft installed ex PeopleSoft executive Brad Wilson as general manager of its CRM product. The delay means that almost three years will pass between the initial release of Microsoft's CRM software, in early 2003, and its first comprehensive update. Last year it released Version 1.2, which addressed many of the most critical gaps and bugs, but customers say the software still lags competitive offerings.

## 4:45PM SARAH VISITS DAD'S OFFICE 5:05PM SARAH DOWNLOADS FUNNYBUNNY.EXE 5:06PM NETWORK KILLS FUNNYBUNNY 5:14PM DAD TAKES SARAH TO KARATE PRACTICE

Sometimes threats don't look like threats. They look like your mobile workers, your sales department or your CFO's daughter. Even the innocent act of downloading a file—one that looks like any other, but is in fact corrupt—can create a costly security breach that can take your business off-line for days. So how do you defend against threats that take the shape of productive employees? A network with integrated security can detect and contain potential threats before they become actual ones. Whether they're worms, hackers or even well-meaning humans. Security that's about prevention. Not reaction. To learn more about how Cisco can help plan, design and implement your network security, visit cisco.com/securitynow. SELF-DEFENDING NETWORKS PROTECT AGAINST HUMAN NATURE.





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## Grid gaining enterprise traction

BOSTON — Grid computing is catching on among enterprise IT managers, whose stories prove you don't have to be a rocket scientist to take advantage of the emerging technology.

In fact, the prevailing message of the third annual GlobusWorld 2005 conference last week in Boston, which attracted some 400 attendees and 40 vendor sponsors, seemed to be that grid is ready for the enterprise.

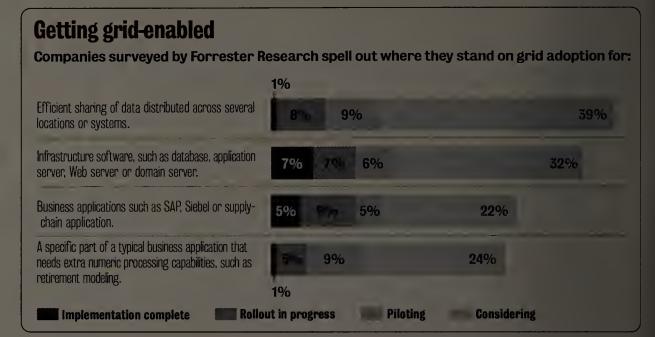
A handful of recent developments help support that: In April the Globus Alliance will deliver Version 4 of its popular open source Globus Toolkit - a collection of tools to grid-enable computing environments — with many Web service enhancements; a Red Hat-like company called Univa has been formed to commercialize the tool kit; and big-hitters HP, IBM, Intel and Sun joined forces late last month to create the Globus Consortium to push grid forward.

The timing is right. According to Forrester Research, 37% of 150 firms surveyed started to roll out some form of grid technology, and another 30% are considering

"There still isn't a broad consensus of what grid really is, but the use cases are beginning to move out of the niche, scientific application area and into more mainstream uses, such as distributing the workload of an accounts receivable application," says Andreas Antonopoulos, principal analyst at Nemertes Research. "You can't get any more mainstream than that."

Grids promise to tap under-utilized compute, storage and network resources and distribute processing workloads based on application or end-user demand. In some cases, grids require users to rewrite applications so they can run across multiple servers, while in other scenarios grid software can act as middleware and parse out processing chores to available resources.

"Grid computing can represent revenue opportunities and pose a clear return on investment for many companies," says Jonathan Eunice, president of research firm Illuminata. "For others, it's about simplifying and unifying systems and building a common services bus or service-oriented architecture."



Ellen Kraus, senior director of enterprise architecture for Bowne & Co., a financial printing company in New York, told attendees that she looked to grid computing to try to get more than 15% utilization from her 200 servers.

The low utilization stemmed from the fact that the company's resources were dedicated to particular applications, and each silo was engineered for peak demand. "Our business is very seasonal, the spikes and valleys

are huge, but we built an infrastructure to support the spikes" and have to maintain that yearround, she says. "We would rather build for the average utilization and then share processing power" to meet peak demands.

To get a six-week pilot off the ground, Kraus worked with IBM Global Services and implemented grid cluster software from DataSynapse that sits on top of the servers and distributes application-processing loads.

Bowne used in-house developers to grid-enable one homegrown application used to format client data for retirement reports. The application is just one of many Bowne runs on more than 1 million client records at scheduled times throughout the year.

"We are a long way off from an end-to-end grid implementation," she says."We just took a section of the process that we thought best fit grid." While she can foresee cost savings, the fact that grid unlocks resources and makes it possible for the company to add new customers without having to install new servers is just as important. "The business doesn't want to wait 21 days to sign a new client up," she says.

Robert Ortega told attendees grid was the best way to maximize efficiencies. The vice president of architecture and engineering for Wachovia Corporate & Investment Banking in Charlotte, N.C., says the bank built a grid to provide a common set of services to multiple applications. Wachovia uses DataSynapse's GridServer software to dole out hardware resources to business and infrastructure services as needed.

in how we do things," he says. "We don't want to be bound to a specific front end or back end. We have client apps that can consume part of a transaction service while a business app is also tapping it. It's diverse and interconnected, and we are saving money because we are re-using what we have for new services."

One limit on grid's acceptance will be the rate at which applications can be adapted for grids. Kraus looks to find more applications to grid-enable. She says it's difficult because applications need to meet two criteria: They have to be homegrown vs. commercial, and they have to run in a static batch environment vs. a dynamic online environment.

"Software licensing issues prevent us from doing grid with commercial applications," she says.

For example, many software companies price and license their products based on CPU, while a grid would disassociate an application from a specific CPU Theoretically that would let software companies charge for only what is used, but that could result in 90% savings so it's no surprise that software developers have been slower than hardware vendors to embrace grids.

While challenges remain, IT shops seem to have started the

"Grid will make organizations move beyond focusing on reducing costs, which is a tangible benefit, to increasing flexibility within their organizations and maximizing their resources," Nemertes' Antonopoulos says.

Senior Editor Jennifer Mears contributed to this story.

## Microsoft acquisition adds to anti-virus, anti-spam arsenal

**■ BY JOHN FONTANA** 

Microsoft last week made another acquisition to strengthen its anti-virus and anti-spam strategy and signal corporate customers that it plans to increase protection for desktops and servers.

The question now is how will Microsoft pull together all the disparate technology it has acquired and been developing over the past 18 months? Microsoft bought anti-virus and anti-spam vendor Sybari Software for an undisclosed sum last week, adding its wares, which focus on protecting corporate servers, to Microsoft's stable of anti-virus, antispam and anti-spyware software.

In June 2003, Microsoft bought anti-virus company GeCAD and last December purchased Giant Company Software, which develops anti-spyware software. In addition, Microsoft is working on anti-virus and anti-spam services for the next version of Exchange Server as part of a project formally called Exchange Edge Services.

The trick now, on the corporate side, is melding Sybari with enhancements underway on Exchange and with management tools such as the forthcoming System Center.

"The [Microsoft product group] that announced

this acquisition was not the Exchange group, and that is weird given Sybari is strictly an Exchange virus scanning engine," says Peter Pawlak, an analyst with Directions on Microsoft, an independent research company. "We are a bit baffled what this means for Exchange, and it is also hard to say what this means for Windows virus scanning."

Microsoft officials say the GeCAD software will overlap between consumer and corporate products, providing anti-virus scanning for desktops, as well as being a scanning engine that can plug into the Sybari platform.

Sybari has no anti-virus scanning technology but rather uses scanning engines from Computer Associates, Norman Data Defense, Kaspersky Labs, Sophos and others. Microsoft could decide to add support for other anti-virus software engines, but currently Sybari's Antigen wouldn't be able to run signature updates from Symantec, McAfee or Trend Micro.

"We will make GeCAD available as one engine, and we will write the signatures for that GeCAD engine," says Lucian Lui, director of product management with the security business and technology unit at Microsoft. Lui's comments confirm rumors that Microsoft would supply updates to virus signatures.■

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continued from page 1

false positives that might cause IPSs to block legitimate traffic.

Cisco, which also announced the VPN 3000 Concentrator for combined SSL- or IPSec-based tunneling, calls the security products rollout its "adaptive threat defense," says Jayshree Ullal, senior vice president of Cisco's security technology group.

The design of the Cisco IPS will include the ability to generate a "risk rating of the event and asset value of the target" when an attack is identified and blocked, Ullal says. Like other IPS appliances, the Cisco line will be able to work in a passivedetection mode like an intrusion-detection system.

Ullal says Cisco's IPS is intended to function well in VolP networks without disrupting traffic. "The IPS is going to protect voice gateways from attack," she says.

Industry analysts say Cisco's

push into IPS is a reaction to growing market demand for more proactive options than that of intrusion detection.

"So far, they've only had detection capability," says Paul Stamp, an analyst with Forrester Research. "But Cisco has a good reputation in detection, so IPS shouldn't be too hard for them."

Some technical experts and IT managers who have gained hands-on experience with network-based IPSs say the only way to find out if an IPS will disrupt network traffic is to put it in line and hold your breath.

"In our labs, we can create false-positives tests, but the only way to be sure is to put one of these things in your network and watch it for a while," says Bob Walder, president of NSS Group, a British equipment-testing organization with labs in the south of France.

NSS, which has tested both host- and network-based IPSs and IDSs for accuracy in detect-

#### **Being proactive**

Things to donaide. When the canner of doing notifier a bacod mer abient pratontion by each				
Challenge	Strategy			
The In-line IPS can cause network latency.	Lab testing can reveal a product's IPS latency in microsed but if the IPS is used internally, traffic might pass through than one IPS, significantly raising the latency.			
False positives can block legitimate traffic.	Testing can help uncover where an IPS slips in terms of find positives, but there is no substitute for putting the IPS in production network and watching the outcome.			
IPS deputes coast max mum speeds sometimes as high as 5G bit/sec, but	Managers should be cautious in assuring their daily traffic are well below the advertised maximum speed for any IP.			

ing hundreds of types of attacks, also looks for latency problems caused by IPSs struggling to keep up with examining traffic flows.

"When you go in-line with monitoring or blocking, you have a huge signature set. It can be difficult for the IPS to keep up," Walder says. In general, network managers should anticipate that an IPS will not add more than 300 millisec of latency. But if IPS devices are deployed at LAN segments, which is increasingly the case, the traffic slowdown might be more noticeable.

"I've seen a file copy that would have ordinarily taken 40 seconds take several minutes as it went through two or three IPSs," he says.

IPS customers say such difficulties usually can be resolved if the IPS vendor is responsive.

The University of North Carolina at Chapel Hill, which deployed half a dozen IPS appliances from TippingPoint inside the campus LAN to guard against worm outbreaks, hasn't had trouble with latency, but does cope with occasional false

One instance occurred when someone tried to download a copy of Windows 2003 Server and the IPS flagged it as an attack and blocked it, says Doug Brown, manager of security resources at the university

However, such problems get resolved through discussion with the vendor, Brown points out. He adds that using the IPS over the past year has made a huge difference in automatically containing worm and virus outbreaks brought about by infected student computers. "We've had a 70% reduction in trouble tickets since using the IPS," he says.

In addition to its IPS rollout, Cisco is also unveiling the PIX Sec urity Appliance 7.0. This software based change for the PIX VPN/ firewall lets it perform application inspection and prevent some types of spyware and peer to-peer network traffic, and pro vide "logical firewalls" within a single firewall. "You can create extranet and intranet zones," Ullal says, by portioning internal firewalls with PIX Security

She acknowledges this was Cisco's first step into adding application-layer protections to the PIX firewall, and the PIX Security Appliance 7.0 wouldn't detect or block cross-site scripting, a function available in most application firewalls, such as those from Teros and Imperva.

## Vendors strengthen messaging security

Advancements take place on encryption, disaster recovery and phishing fronts.

BY CARA GARRETSON

With attempts to offer customers one-stop shopping while maintaining a competitive edge, messaging security vendors are adding new services and features to complement their spam- and virus-protection offerings.

These vendors, many of which

Sullivan testified that the

Verizon deal was scuttled

in the summer of 2001

are making announcements this week at the RSA Conference in San Francisco, are adding policy enforcement, encryption, disaster recovery and other features to increase basic e-mail filtering -a function which has become a standard checklist item for most companies.

"Most of the vendors in this

space have perfectly good spamblocking facilities, now they're striving to find a way to differentiate themselves in the marketplace and expand their revenue opportunity [by] broadening their product portfolios," says Matt Cain, an analyst with Meta

FrontBridge Technologies plans to add new dimensions of disaster recovery and encryption to its managed e-mail service before the end of the quarter. Labeled Total Message Management, the company's outsourced service routes an organization's e-mail through a FrontBridge data center before it hits the corporate network, which provides spam and virus filtering, archiving, desktop encryption, policy enforcement and disaster recovery.

New features to the service will provide "active" disaster recovery. Not only are an organization's incoming e-mails received by FrontBridge even when the company's e-mail servers are down, but employees also can access up to 30 days of stored e-mail at FrontBridge's data center through a Web interface, says Dan Nadir, vice president of product management. The new gateway policy enforcement will flag outbound mail that contains key words specific to certain corporate policies — such as health insurance data that is regulated by the Health Insurance Portability and Accountability Act — and automatically encrypt them before they are sent, Nadir adds.

Getting spam and virus protection plus archiving from one vendor makes life easier, says Nathan Wright, manager of network operations at Sentinel Benefits in Wakefield, Mass., which provides administrative services for corporate benefit plans. Sentinel was using an archiving service from MessageRite, FrontBridge acquired last year, and has since added spam and virus filtering. "Having both [filtering and archiving] together is great. FrontBridge would really have to screw up archiving for us to go somewhere else," Wright

E-mail appliance maker Cipher-Trust will announce on Wednesday enhancements to its Secure Web Delivery appliance, It works

See Messaging, page 12



trial hearing. (AP Photo/Mary Altaffer)

because he and Ebbers decided their company's books could not be opened to Verizon accountants lest the crooked numbers contained therein be exposed. Sullivan also told jurors that Ebbers told him to delete information about soaring expenses from an internal budget document. Sullivan testified that he told Ebbers that the company's monthly revenue report "just keeps getting worse and worse" and was riddled with "accounting fluff" and "one-time stuff or junk." In a voice message played for the court, Sullivan also told Ebbers that 'we're going to dig ourselves into a huge hole, because year-to-date, it's disguising what is going on." Sullivan's testimony is expected to end early this week.





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## Fiorina's ouster draws mixed reactions

With HP's future in flux, customers weigh in on the effect a company breakup might have.

#### ■ BY DENISE DUBIE, DENI CONNOR AND JENNIFER MEARS

When it came down to it, Carly Fiorina couldn't transform HP into a computer titan to rival IBM or its other major competitors.

That failure, coupled with problems with other key company technology — namely growing HP's storage and server business — cost her her job last week when HP's board dismissed her. At the helm since 1999, Fiorina over the years tried to revamp "the HP way" and reshape the company with the controversial merger with Compaq, all in the face of mounting criticism.

In the end, Fiorina was pushed out as a micromanaging leader who couldn't execute on HP's strategy quickly enough, experts say. While the board stressed that in ousting Fiorina they were not questioning the company's strategy, rather her ability to execute that strategy, analysts and observers renewed calls for HP to reorganize.

"The question now becomes will HP spin off print, imaging, PCs and services or some combination as a separate company," analysts at Ptak, Noel & Associates wrote in a research note last week. "We think some sort of spinoff is almost inevitable.

Aggregating several struggling companies

has not led to sustainable market share leadership — so the big challenge will be to decide what to do with PCs."

Steven Milunovich, a vice president at Merrill Lynch, agreed, writing in his research note that the "long-term probability of a breakup of the company is rising."

Klara Jelinkova, manager of operational integration and support at the University of Wisconsin in Madison, says rumors about the company being split don't concern her. "Splitting HP up at least fiscally may not be such a bad thing if it allows HP to develop technology to meet user needs," she says.

Jelinkova doesn't use HP server equipment, but she says she put a lot of faith in the company's Adaptive Enterprise technology, and uses OpenView management software.

Lately, pricing, lack of product development and requirements to buy related software to support current products have caused her to consider changing products, she says. Jelinkova recently asked HP about a more modern Java interface for HP's OpenView Operations software to monitor Unix machines and was told there were no plans for upgrades.

"The fact that this was a self-limiting strategy did not seem to be a concern of the design team," she says.

At that point, Jelinkova says she became

"Splitting HP up at least fiscally may not be such a bad thing if it allows HP to develop technology to meet user needs."

#### Klara Jelinkova

Manager of operational integration and support, University of Wisconsin

concerned the company wouldn't support its product directions with actual tools to help her staff achieve a more dynamic management infrastructure.

"For us, the biggest impact [from a change in CEO] would be if HP would make their Adaptive Enterprise solutions more competitive in terms of price, feature sets and ease of implementation," she says.

Jim Michael, IS manager for the city of Chesterfield, Mo., says he has been satisfied with HP and its products. He says he was surprised by the news, but plans to stick with HP, regardless.

"Our decision to stay with HP over the years had nothing to do with who was at the helm, and it won't unless the [new CEO] takes the company in the completely

wrong direction," he says. "I think HP's future is sound, as long as it doesn't start ditching core products like Ethernet switches and ProLiant servers."

Procter & Gamble, which entered into a 10-year, \$3 billion IT services contract with HP in 2003, also says it is business as usual as far as HP is concerned. Lisa Popyk, a spokesperson with the Cincinnati company, says HP contacted P&G executives early on Wednesday to give them the news and respond to any questions.

"We are not at all concerned about this," she says. "We know companies go through changes from time to time in terms of leadership and personnel.... Their service to us at all levels has been exemplary, and we have no concerns whatsoever that that is not going to continue."

Others were more critical. A former Compaq customer, who wished to remain anonymous, says that since HP acquired Compaq, he has had issues with product pricing and quality. The technology architect in Texas says he has replaced Compaq servers with Dells, based primarily on price and features.

"I remember paying \$30,000 for a medium-sized departmental server [from Compaq]. I can get that from Dell now for \$4,000. And the Dell servers integrate so well into my environment," he says.



#### Carly's rise and fall

One of tech's most powerful women, Carly Fiorina parted ways with HP. A look at some milestones during her tenure:



HP appoints former Lucent exec Fiorina as president and CEO.

#### August 2004

Three top sales executives, including former server group head Peter Blackmore, get the axe after problems in the company's enterprise group cause HP to miss financial expectations for the quarter.

HP says it will merge its lagging PC business with its printer division.

1999 2001 2002 2003 2004 2005
September 2001 December 2004 February 9, 2005

Plans are revealed for HP to acquire Compaq in an all-stock deal worth \$25 billion that will make the merged entity one of the biggest IT companies, with forecast annual sales of \$87.4 billion and operating income of \$3.9 billion.

HP scraps its Itanium development efforts, sending design work to Intel. The company also abandons plans to integrate Compaq's Tru64 Unix technology into its HP-UX OS.

HP's board of directors dismisses Fiorina, citing disagreements over the "execution" of the company's strategy.

#### Messaging

continued from page 10

with its IronMail gateway product, aimed at making it easier for customers to send and receive encrypted messages — a growing need given privacy concerns and recent regulations, says Matt Anthony, director of product marketing. Version 2.0, due at the end of March starting at \$30,000, gives recipients of encrypted mail a simple, Web-like interface for reading their messages. It also eases administrative burdens by providing password management, such as automatic generation of new passwords, Anthony says.

MailFrontier will announce an upgrade to its e-mail security server software that scans an organization's outgoing mail for proprietary information and signs of compromised PCs. The MailFrontier Gateway 4.0, due out in

March, helps a company identify PCs on its network that have been taken over by zombie programs and prevents those from sending out messages. Pricing was not announced.

For other vendors, expanding their presence in the e-mail security world means sharing information with customers and the Internet community at large that might help cut down on e-mail abuse.

E-mail appliance maker IronPort Systems, for example, will demonstrate at RSA a new Web site that provides information about messaging patterns and trends gleaned by its SenderBase reputation service. Called the Threat Operations Center, the site will report on virus, spam and phishing attacks from the messaging activity that IronPort's appliances monitor, which the company says makes up about 25% of the world's e-mail traffic.

In the coming weeks, WholeSecurity plans to launch an anti-phishing aggregation service called the Phish Report Network that will feature Microsoft and eBay among its users. The service will have two types of participants, companies such as eBay whose brands become victims of phishing scams will report phishing sites to Whole-Security's database.

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#### More online!

Listen to Mark Gibbs' presentation on strategies for creating a messaging environment that ensures network integrity, user productivity and returns control to network managers.

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## **Customers find different VolP benefits**

BY PHIL HOCHMUTH

LAKE BUENA VISTA, FLA. — Network executives who shared voice/data convergence stories at last week's VoiceCon show described VoIP as a new kind of juggling act for IT departments, one where both technical and managerial issues must be handled delicately.

As companies such as American Express, Bank of America, Delta Airlines and New York Life bring voice onto their LANs and WANs, their network executives say the right processes and organizational changes made in the beginning of a project are as important as the choices of IP telephony gear, architecture and applications.

And as for reasons to converge, they are as varied as the businesses involved: cost savings from administration and pared-down telco bills, improved productivity, deployment flexibility and disaster-recovery capabilities are big drivers, they say.

The show drew more than 4,500 IT and telecom managers, which show organizers said is the biggest crowd the event has had.

As has long been the case, many VolP adopters said the thorniest issues in convergence involve personnel instead of technology.

"Voice and data people don't speak the same language," said Jeff Denecke, vice president and chief architect at New York Life. "Voice engineers don't want to go to IP; it feels dangerous to them."

New York Life last year deployed Cisco IP phones and CallManager IP PBXs to support all its Manhattan employees. This year, the firm will roll out unified messaging to desktops and connect branch offices to the VoIP network. But before a single IP phone was put on a desk, Denecke said he had to get the insurance firm's voice and data teams on the same page. This involved many "locked-in-a-room" team-building meetings.

"When we got done holding hands and singing 'We Are The World,' everyone got it and the project went great," Denecke said.

There was no singing at Bank of America when it set out pilot sites for what will ultimately be a 180,000 Cisco IP phone network. But the bank did draw clear lines of responsibility for IT staff as the project's very first step.

This "allows you to draw a line in the sand," said Craig Hinkley, Bank of America's senior vice president of network architecture and strategic design. "And that's



Bank of America's Gralg Hinkley said explaining roles to different IT factions makes for an easier transition to VoIP.

what people want."

This line was drawn between two areas of responsibility for the rollout: VolP infrastructure services (involving switches, routers and QoS) and VolP application services (relating to telephony features and support).

The IT staff "wants to know that they are responsible for something and to know their role," Hinkley said. Drawing that line "lets them know their role and know that there is job security through the project's process. The structure has helped put some tension at ease in that area."

VolP veterans say another important area of prep work for a successful rollout is assessing the readiness of the LAN and WAN — infrastructure that might appear to be humming along fine but that might need tweak-

ing and upgrading.

You need to make sure the data network is ready for voice," said Allan Rubin, manager of network engineering for Delta, which converted to a VoIP-enabled call center architecture last year. "We had what I considered a high-end data network," he said, but when a network assessment was performed by Avaya (Delta's vendor for IP call center gear), "it was a little dicey. They found configuration errors that running normal traffic — TCP, HTTP traffic or even SNA — didn't bring to the forefront.But [simulating] voice traffic did" make the network problems stand

He said the pre-installation assessment was key in making the rollout relatively smooth. "It also meant that we wouldn't get into finger-pointing down the line because I had a document from Avaya that said my data network was good," he said.

Testing the network before and after VoIP gear is installed helped drug maker Glaxo SmithKline hammer out QoS issues on the project's front end, and Power over Ethernet (PoE) glitches once Siemens IP PBXs and phones were on desks at a 400-seat pilot site in North Carolina.

"We emulated VoIP traffic loads beforehand," said Charles Goodall, manager of technical architecture and strategy at Glaxo. This let the firm tweak its QoS settings on the Siemens gear and Cisco LAN switches. Reassessing the network postdeployment revealed that the PoE settings on the Siemens IP phones were drawing too much power from the switches and limiting the number of phones that could be attached to a subnet.

As for money issues, New York Life says the savings could be measured in feet and dollars.

"On average, it costs between \$100 to \$300 for a cable pull," depending on the length and cable type, Denecke said. In the insurance firm's new facilities, these costs were halved by running one cable for voice and data to desktops.

New York Life's midtown Manhattan neighbor Depository Trust & Clearing, says its VoIP savings were found in reduced telco costs. The company changed its Nortel Meridian PBXs to Nortel Succession 1000 IP PBXs, letting voice run on its optical OC-3 network. This cut site-to-site tie lines linking the PBXs and saved the company \$25,000 per month.

VoIP "also provides management flexibility we never had before," said Michael Obiedzinski, vice president and network architect for Depository Trust & Clearing. After the Sept. 11 attacks, the company changed its network management strategy so that the network is managed and monitored from a different site every week on a rotating basis. "It was cumbersome to support this model before," when voice and data were separate, he said.

American Express used IP call center technology to deconstruct its centralized call center model and support agents that work from home, and offshore call center workers internationally.

The driver for these actions was an increased demand for the financial adviser call center services, said Heidi Wilensky, lead telecom manager for American Express. "But we weren't seeing the expanded revenues needed to expand the call center," she said.

American Express shifted its call center deployments from agent stations — with fixed PC, telephone and CIT integration equipment — to a thin-client model, using Citrix and Avaya's IP Agent call center software. This created a single hardware-independent dashboard application, where screen pops and softphone telephony interfaces were combined, which let agents log on from anywhere to work.

## **Novell sets GroupWise direction**

#### ■ BY DENI CONNOR AND JOHN FONTANA

Novell last week tried to dispel rumors of an imminent demise of its GroupWise collaboration platform by laying out a three-year road map for the product.

Customers welcomed the news.

The perennial No.3 player behind IBM/Lotus Notes and Microsoft Exchange, GroupWise is slated for a host of makeovers and upgrades over the coming years that include interface enhancements, new collaborative features, expanded back-up capabilities, and cross-platform support.

Speculation has been circulating that Novell's aggressive Linux strategy would consume Group-Wise, but the company insists that is not true.

"There has been speculation outside that GroupWise would disappear," says Kevan Barney, a Novell spokesman. "This was a good time to let people know that GroupWise is not going away."

Some customers say Novell can make all the client-side changes it wants, which includes using its Linux-base Evolution client as its standard front end, but GroupWise should remain the back end.

"What I do care about is that Novell keeps maintaining and improving the GroupWise server-side components," says Jim Michael, IS manager for the

city of Chesterfield, Mo.

"I haven't seen anything from Novell to make me worried . . . yet. As long as they stick with the GroupWise back end, and provide a good cross-platform client experience, I'm satisfied."

Others express more concern about a major transition to a Linux-based platform.

"If we have to deal with an unknown support system, we will go somewhere else," says Mark McMurray, technology coordinator for the Frenchtown School District in Huson, Mont.

With Novell's new road map, it appears GroupWise is not going anywhere but forward.

The next release, code-named Sequoia, is slated to ship this summer. Another version, code-named Aspen, is scheduled for fall 2006 and a third upgrade, code-named Cedar, is slated for 2008.

Sequoia is expected to focus on interface and application programming improvements, and will be unveiled next month at the company's annual BrainShare conference.

Aspen is expected to get team collaboration upgrades, new data back-up capabilities and improvements for deploying third-party applications.

Cedar is anticipated to focus on cross-platform support and will add improvements to team collaboration and administration



## HP, others tackle data replication, recovery

#### BY DENI CONNOR

A slew of new products and services are rolling out that let customers automate and implement a replication and recovery process for their most important data applications. The announcements include:

- HP rolling out replication software last week for Windows and HP-UX networks that lets IT administrators copy data across metropolitan, regional and national areas.
- New LiveVault software and services InControl, InSync and TurboRestore — for recovery and protection of data in remote offices, and SMBs.
- MessageOne, a maker of business continuity software for messaging applications, launching OneSwitch, a data replication and recovery service for Microsoft Exchange, SQL Server and Internet Information Server users.

"The industry has rapidly been making the transition from tape-based backup to disk, but getting the data offsite is still a problem, particularly for remote offices or small and midsize businesses that lack IT staff," says Steve Duplessie, senior analyst for

Enterprise Strategy Group. He estimates that only 1% of organizations have implemented business continuity packages.

HP has released three software packages for protecting businesses from service disruptions. The Metrocluster EVA (Enterprise Virtual Array), Continentalclusters and StorageWorks Cluster Extension EVA provide HP-UX and Windows customers with StorageWorks arrays with continuous access to business-critical data and systems.

HP says that current midrange failover products replicate either server or storage resources, but not both. Its Metrocluster EVA, Continentalclusters and Cluster Extension EVA let businesses fail over entire sites.

With the Metrocluster EVA, users can bi-directionally and automatically fail over HP-UX data centers across more than 160 miles. The Continentalclusters support local and remote failover capability for HP9000 and Integrity servers. The StorageWorks Cluster Extension EVA consists of host-based software that enables remote mirroring and fail-back and recovery on Windows networks. These HP products vary regionally and by contract.

Separately, LiveVault's InSync service for SMBs uses an optional disk back-up appliance. Its TurboRestore lets companies quickly recover data. Data is backed up to a local TurboRestore appliance and then sent over the network to a secure, remote LiveVault Data Storage Vault.

LiveVault's InControl also uses the TurboRestore appliance in remote offices to back up data to headquarters. InControl is intended to be used in remote offices that do not have IT personnel, where backing up the network does not happen or where back-up operations are too complex for non-IT personnel. Using a Web browser, customers can indicate which remote servers to back up. Pricing for InControl starts at \$25,000. InSync starts at \$119 per month. Turbo Restore is included in the service agreement.

MessageOne's OneSwitch offers replication and failover services for Microsoft Windows applications. The service lets administrators and users within branch offices and midsize businesses recover data in minutes rather than the hours it took

From OneSwitch's centralized view of Exchange, SQL Server and other Microsoft applications, users or IT administrators can initiate failover from any location simply by pushing a button.

Todd Coury, network manager for law firm Andrews Kurth in Houston, uses MessageOne's OneSwitch.

"We are replicating data from Houston to a disaster-recovery [storage-area network] in Dallas, so if Houston goes offline from a hurricane or other disaster, we can continue to work with the Houston data even if it is unavailable in Houston," Coury says

"With OneSwitch, I can log in from home, from anywhere and fail our key systems over to our Dallas office," he says. "Before, I would have had to go onsite and do it."

OneSwitch starts at \$150 per server, per month.



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#### TUESDAY, APRIL 12

Registration Open 11:00am - 8:30pm

9:00am - 9:30am

Breakfast 9:30am - 11:30am **Pre-Conference Tutorials and Primers** 

Luncheon

11:30am - 1:00pm

**Pre-Conference Golf Outing** 

12:00pm - 5:00pm 1:00pm - 5:25pm

End-User Case Studies; SNIA Voice of the User Track; SNIA Technical Tutorials Track; Deployable Solutions Track

6:00pm - 8:00pm

Welcome Reception

#### **WEDNESDAY, APRIL 13**

Registration Open 7:00am - 8:00pm

7:15am - 8:15am

8:15am - 8:30am

8:30am - 9:15am

Breakfast **Opening Remarks** 

Opening Visionary Presentation: The Likeability Factor The research is overwhelming – for personal, corporate and national success, we have to possess a sufficient L-Factor. Bestselling author Tim Sanders, has studied and written about this problem in his second book *The Likeability Factor* (Crown/Spring 2005), and now has the research-based program to show audiences how to boost their L-Factor for greater success on all levels. This visionary presentation outlines how likeability is the key to finding success in relationships, product design and even business life.

Tim Sanders, Leadership Coach, Yahool and Author of Love is the Killer App and The Likeability Factor

9:15am - 9:45am 9:45am - 10:15am

**End-User Case Study Industry Leader Presentation** 

Ann Livermore, Executive Vice President, Technology Solutions Group, Hewlett-Packard

10:15am - 10:30am

Break

**End-User Case Study** 

**Industry Leader Presentation** 

10:30am - 11:00am 11:00am - 11:30am 11:30am - Noon

End-User Case Study: The Story (and Storage!) Behind Kodak's Online Photo Success

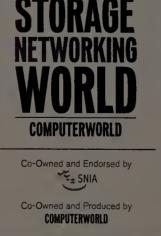
Sonja Erickson, Vice President, Technical Operations, Kodak EasyShare Gallery

Noon - 12:45pm

**End-User Panel** Moderated by: Steve Duplessie, Founder & Senior Analyst, Enterprise Strategy Group

12:45pm - 2:00pm

Luncheon



#### For more information and to register, visit www.snwusa.com/nww or call 1-800-883-9090

#### WEDNESDAY, APRIL 13 (continued)

End-User Case Studies; SNIA Voice of the User Track; 2:10pm - 5:40pm SNIA Technical Tutorials Track; Deployable Solutions Track

Expo with Dinner and Interoperability & Solutions Demo 5:40pm - 8:40pm

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#### THURSDAY, APRIL 14

Registration Open 7:00am - 6:00pm

7:15am - 8:15am Breakfast

8:15am - 8:30am **Opening Remarks** 

8:30am - 9:15am **Opening Visionary Presentation** 9:15am - 9:45am **Industry Leader Presentation** 

9:45am - 10:15am

**End-User Case Study** 

Bob Logan, Vice President, Enterprise Infrastructure Services, SAIC

10:15am - 10:30am

10:30am - 11:00am

**Industry Leader Presentation** 

11:00am - 11:30am 11:30am - Noon

**End-User Case Study Industry Leader Presentation** 

Noon - 12:45pm



**Panel Discussion** 

Moderated by: Jon William Toigo, CEO & Founder, Toigo Partners International

12:45pm - 2:00pm

Luncheon

2:10pm - 5:40pm

**●** IDC Storage Analyst Briefing

2:10pm - 5:40pm

End-User Case Studies; SNIA Voice of the User Track; SNIA Technical Tutorials Track; Deployable Solutions Track

4:00pm - 7:00pm

Expo Open · Cocktail Reception in Expo begins at 5:30pm

7:00pm - 9:30pm

Gala Evening with Dinner & Entertainment

#### FRIDAY, APRIL 15

Registration Open 7:30am - 10:00am

7:30am - 10:00am

Continental Breakfast

8:30am - 12:30pm

End-User Case Studies: SNIA Voice of the User Track; SNIA Technical Tutorials Track; Deployable Solutions Track

12:30pm

Conference Concludes

with folks you normally wouldn't meet and capitalize on the serendipitous exchange of ideas ..."



John Seely Brown former director, Xerox Palo Alto Research Center (PARC), and former chief scientist, Xerox

"... SNW is a great venue for peer discussion ... an opportunity to provide feedback to vendors on what users need from them ..."



John Greer Director, IT Infrastructure, Pacific Gas & Electric



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## Tool 'mobilizes' unstructured data

BY JOHN COX

Mobile software maker Agilix is readying a software development kit for building mobile applications that will let customers collect, index and organize information that can't use a conventional database: spreadsheets, Microsoft Word documents, .PDF files, PowerPoint slides, Web pages and the like.

The new SDK packages the core functions found in the company's GoBinder software, a mobile application designed for students and educators working with lots of unstructured information stored in the widely used Blackboard Learning System from Blackboard. Agilix began creating the SDK when non-academic customers expressed interest in using GoBinder to organize information in documents and other formats needed by mobile salespeople and others.

Agilix previewed the SDK last week at the Visual Studio Live conference in San Francisco.

Both GoBinder and the upcoming GoBinder SDK are based on Microsoft .Net Frame-

#### **Founding** fathers

Agilix was founded in

2001 by President and CEO Curt Allen, and CFO and COO Dave McGinn, who also cofounded MyFamily.com, which has more than 1.6 million subscribers and was one of the first .Net-based sites.

work, which features reusable software components linked with back-end applications and data via Web services.

Agilix also has released Infi-Notes, a set of .Net controls that lets customers rapidly create digital ink applications for Microsoft Tablet PCs.

"They're using Web services, and the idea of the 'service-oriented architecture,' and not running any software on the server," says Stephen Drake, program manager of mobile infrastructure software at IDC. "There's something to be said for that in reducing software complexity and costs. By being focused [solely] on the client side, these applications are so much easier

Using GoBinder SDK, with its built-in database, customers can create notebook and handheld applications that run even when users are offline. By contrast, Web applications require a continual network application because they're making use of functions and data on network

The SDK includes the user interface manager; the Go-Binder database, which resides on the client device; the Mobile Data Manager, which supports ready-to-use interfaces to backend data sources; and the message hub for coordinating communications among the components. All these components run on the client.

Initially, the Mobile Data Manager has interfaces for Simple Object Access Protocol-based Web services, and for connecting directly to Microsoft Exchange servers, and to Blackboard. Agilix plans to release other application interfaces in the future.

No pricing has been set for Go-Binder SDK, which is tentatively scheduled for release with the next version of GoBinder, probably in the third quarter of 2005.

InfiNotes is intended to make it easier to create digital ink applications for the Tablet PC. Digital ink is a Microsoft technology that captures and stores handwriting and drawings, as separate files or annotations on existing files, via a special pen on the tablet's touch screen. But applications using digital ink have not been widely embraced, according to Agilix executives.

The Agilix controls have greatly simplified the work of building a Tablet PC application with digital ink for field inspectors at Penn National Insurance, a property and casualty insurer in Harrisburg, Pa. "They've greatly expanded the basic [digital ink] controls from Microsoft," says Kevin Kauffman, senior systems analyst with the insurer.

One example is the basic picture book control: It lets users select and display a background image and write over it in digital ink. But the Agilix control lets users place text and additional images, make annotations, reposition everything and employ functions such as copy and paste.

"The basic control doesn't let you do any of that without writing custom code," Kauffman

The Standard Edition of Infi-Notes is a free download from www.infinotes.com. The Professional Edition costs \$995 per developer, and includes support services.

Correction

In our test "Vulnerability

alerting services free up expen-

sive IT security" (Jan. 24, page

39), we incorrectly stated that Co-Logic Security's E-Secure-It

service failed to notify us of a

particular Internet Explorer vul-

error, E-Secure-It earned a 2.5

scorecard category and a 2.63

nerability. In correcting that

score in our Alert Delivery

score overall.

## **Identity software giveaway** aims to increase demand

BY JOHN FONTANA

Start-up Ping Identity is looking to jump-start demand for identity software by giving away its server that helps customers link access control systems across network boundaries.

This week, Ping will release and begin giving away PingFederate 2.0, a full-featured, Java-based server for integrating identity management systems between and among companies — so-called iden-

Users can install multiple copies of PingFederate, which supports the Security Assertion Markup Language (SAML) 1.1, and connect it to an unlimited number of applications. The offer includes 100,000 identity transactions, which are the equivalent of a SAML assertion exchange. After that, users will pay a yearly subscription fee for further use, which is \$10,000 per 1 million transactions or \$30,000 for unlimited transactions for a year, including support and maintenance.

Identity federation adoption is in its infancy, with

Read more about what is happening in the identity management market. PAGE 22. well-known projects at major companies such as Boeing and American Express. A number of vendors also are involved in identity federation development, including RSA Security, Trustgenix, HP, Sun, IBM, Computer Associates, Oblix and others. Still, in order to fuel growth smaller companies need to

"We have seen a certain amount of early adopters, and the industry is trying to get them to the next level as well as get more people adopting federation," says Gerry Gabel, an analyst with Burton Group. "Having this kind of tool freely available could help both of those parties. In theory it sounds good, but we'll have to see just how easy it is in practice."

PingFederate 2.0 includes single sign-on, provisioning and access control. It also includes adapters for relational databases and directories. Support for SAML 2.0 will be added in May.

"We think this is the only viable way to help the marketplace see the value of federation," says Eric Norlin, senior vice president of strategic marketing for Ping. "Realize the value then worry about the price."

Also next week, Web services start-up Reactivity will release a white paper titled "A Federated Model for Web Service," which details how an identity infrastructure built on SAML can validate all the hops in a Web services transaction.■

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SECURITY SWITCHING ROUTING VPNS BANDWIDTH MANAGEMENT VOIP WIRELESS LANS

- **3Com** announced last week plans to offer an e-mail security appliance targeted at small and midsize businesses. Slated for release this month, the 3Com Email Firewall will feature technology licensed from Border Ware, which makes the MXtreme line of e-mail appliances, 3Com has licensed BorderWare's software for its new product but says it will manufacture the hardware itself. 3Com made some modifications to BorderWare's software, such as simplifying the user interface and adding a wizard program to ease setup. Among the security features licensed from BorderWare are anti-spam and antivirus filters, and protection from network worms, Trojans, and attacks such as denial-of-service and directory harvest. Prices begin at about \$2,800 for the appliance plus software licenses for 100 users.
- Tandberg last week announced Expressway, software that is designed to solve one of the problems facing IP videoconferencing adoption: firewall and network address translation traversal. The H.323 protocol used by the majority of IP videoconferencing systems uses a number of random, non-standard firewall ports, which usually are closed. Expressway, which is based on technology Tandberg acquired from Ridgeway Systems last year, funnels H.323 into just three registered ports, making it more firewall-friendly. Expressway requires a free software update on Tandberg's MXP line of endpoints and for the endpoint to be registered to a Tandberg Border Gateway appliance that sits outside the firewall. Expressway's technology is also embedded in Tandberg's Gatekeeper, which can act as a firewall proxy for non-Tandberg videoconferencing endpoints. Expressway software updates will be available for all MXP endpoints this week. except for the Tandberg 150. Its update is due this spring. Border Controller is priced starting at \$7,700 for a five concurrent-call configuration. Gatekeeper costs \$9,000 for five con-

## IPS gaining ground over IDS

#### **■ BY ELLEN MESSMER**

IT security managers say the dangers posed by computer worms and hacker attacks have compelled them to shift defenses from passively monitoring their networks to actively blocking attacks, even though legitimate traffic sometimes gets blocked.

With the growth of intrusion-prevention systems, established IPS vendors and startups are introducing an ever-widening array

However, while IPSs appears to be usurping intrusion-detection systems (IDS) in more organizations, they come with the risk of blocking good traffic and bad.

"It's a calculated risk," says Chris Hoff, information security officer at Western Corporate Federal Credit Union (WesCorp) in San Dimas, Calif., about his company's decision to shift from IDS to IPS over the last six months.

WesCorp, which has \$25 billion in assets and provides back-office management services to about 1,000 credit unions, deployed the Internet Security Systems (ISS) Proventia G-100 IPS appliance to start automatically blocking attack traffic. The main reason is that even one hit from the growing number of worms and hacker attempts would be too high a price to pay, Hoff says. However, the downside is that legitimate traffic occasionally is blocked along with attack traffic, he adds.

"Legitimate traffic can be blocked, and we spend an enormous amount of time tracking down false positives and false negatives," Hoff says. He adds that there needs

to be improvement in IPS blocking to filter out the "harmful stuff" while allowing good traffic through.

In spite of the problems false positives cause — the same kind that plagued passive IDS sensors over the years — Hoff says he has no intention of giving up intrusion prevention. He adds that WesCorp isn't buying network-based IDS any more. Instead, the company is using vulnerability-assessment much more than it did in the past, and deploying products from Skybox Technologies and Qualys to determine which server and desktops require patching and updates.

Hoff says he's interested in host-based IPS, too, but is waiting for prices to drop. Costs typically run into the hundreds of dollars for the software for each server that needs protection.

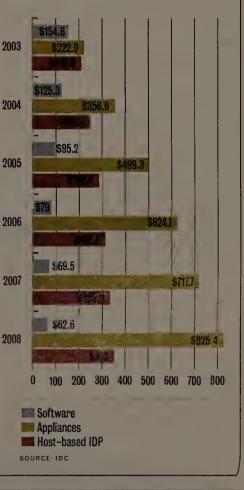
According to IDC, the market for IDS and IPS together — collectively known as intrusion detection and prevention (IDP) — is about \$730 million, with host-based software half of network-based software and hardware last year.

Several analyst firms, including Infonetics Research and IDC, say it's admittedly hard to figure out the exact number of blocking-capable IPS products that were sold in any year vs. IDS. This is because some of the larger IDP vendors, including ISS and Symantec, are reluctant to break this out. The reason often given is that IPS typically includes passive IDS functionality, and sometimes customers use IPS for passive monitoring or in a "mixed mode" where they block some traffic but monitor

#### **Security growth**

Intrusion-prevention system sales are growing as IPS vendors and start-ups target users with a variety of products they say will help protect corporate data.

**Worldwide intrusion-detection and** -prevention software and appliance revenue 2003-2008 (in millions)



## **Vendor layers-on spam protection**

#### **■ BY JOHN FONTANA**

Tumbleweed Communications, which develops anti-spam and anti-virus software, is putting up a new line of defense to help corporations combat malicious traffic targeted at their e-mail servers.

The company last week introduced an appliance called MailGate Edge, a relay server that sits at the edge of a corporate network and deflects malicious e-mailbased traffic before it reaches internal

Tumbleweed refers to these malicious

transmissions as "dark traffic." The company says dark traffic includes not only spam but also denial-of-service and directoryharvest attacks, malformed SMTP packets, and other requests and communications that are not legitimate mail.

MailGate Edge is designed to recognize these threats and prevent them from reaching a targeted mail server. The benefits for corporate users are fewer messages to process in their anti-spam and anti-virus software, and less load on e-mail servers.

"This notion of a two-tier approach to spam blocking is the wave of the future,"

says Matt Cain, an analyst with Meta Group. "You will have the equivalent of a front-end processor that will work at the SMTP and the IP level in the case of spam. Using a variety of protocol-level techniques, you will be able to filter out 50% of spam. The spam that does get through will be interrogated further by a spam engine."

Cain says the result will be a steep reduction in the amount of junk corporate mail systems must process.

Tumbleweed is not the only vendor pushing this two-tier approach. A few weeks ago,

See Mail, page 20

#### TOLLY ON TECHNOLOGY Kevin



f the hardware doesn't get you, the software will." Or at least this is how it seems sometimes. Last time, l wrote about the trials and tribulations of unpredictable hardware. This time, we'll look at things from a software perspective.

With broadband and wireless now ubiquitous, there are likely few small-office locations that don't avail themselves of this technology. Broadband routers — inexpensive but "sophisticated," with firewall, DHCP and frequently integrated wireless access points - can be found stacked alongside more mundane items such as wireless phones.

When it works, it's great. But few of these offices have on-site support, so when something goes wrong, it spells trouble. And all

### 'Dirt cheap' networking — the software perspective

too often the culprit is software - poorly written software that seizes up with no warning and for no apparent reason.l call it "infirm firmware."

Net Infrastructure

Years ago, it was much harder and much more expensive to set up a remote office. Such an office often would be composed of, say, an IBM AS/400 midrange connected via a leased line to headquarters. It took time and money to outfit and set up such an office, but once running such sites typically staved running. When failures occurred, they usually were accompanied by a detailed error code.

You'd have a problem, identify it, fix it and THAT problem would be gone. Not so

Broadband router outposts are not so predictable. They'll work — and work fine — for days or weeks and then just stop or seem to "just stop." Sometimes nobody can get on, sometimes people already connected are fine but no new users can connect.

When this happens, we all sigh, reset the

power on our broadband routers and soon we are back in business. As this usually fixes the problem (until next time), no vendor tech support log is called.

I think many vendors implicitly recognize their own infirm firmware by specifying that a power reset be the first step in problem resolution. This saves time and money for the vendors but doesn't solve the problem for end users.

Every time a router reset is required, the branch office goes down. For years, vendors have touted the cost savings of availability. Yet, when it comes to small remote offices, nobody seems to care.

Because many of these broadband routers are notoriously unstable, the powerreset solution — which cuts off all users often can be the first step taken when a user reports a problem even vaguely related to connectivity.

The worst part is that this is a problem that vendors could solve if they so desired. Instead of building a solid code base — a

"boring" broadband router — that is a workhouse, vendors seem intent upon piling on new features and functions all the time and making these the standard loads for their products.

Looking around on vendor support sites, users will find dozens of firmware loads but no information about how well they were tested before posting.

I've often thought of proposing a test wherein we take these routers, run them 24/7 for a month and then, without rebooting, go through and verify that all the core functionality was still working - but I probably wouldn't get any takers.

If uptime is important to your company, make it clear to the vendors — for now at least, they don't seem to be getting the

Tolly is president of The Tolly Group, a strategic consulting and independent testing company in Boca Raton, Fla. He can be reached at ktolly@tolly.com.

#### **IPS**

continued from page 19

continued from page 19

expected to ship next month.

cious activity.

other portions.

Nevertheless, there's strong reason to believe IPS is gaining ground among enterprise customers, says Charles Kolodgy, research director for security products at IDC. He predicts that within a matter of a few years "IPS will eventually be the predominant technology.

IPS is selling better than IDS, confirms Clarence Morey senior manager for product strategy at ISS, adding IPS is often preferred for the most mission-critical networks. ISS, which focused on softwarebased intrusion detection until the launch of its Proventia appliance line in mid-

Symantec introduced its Mail Security 8100

appliance, which is designed as an edge

server to block spam. The appliance is

MailGate Edge looks at packet and appli-

cation layers, including sender IP address-

es, message volume, recipients and other

characteristics of SMTP connections to de-

termine behavior patterns that reveal mali-

The Linux-based appliance has an ad-

2003, declines to offer more detail on numbers. But in its latest quarterly legal filing at the Securities and Exchange Commission, ISS indicated that the Proventia line of IPS appliances accounted for 61% of product and license sales in the third quarter of this year, and 53% of sales revenue for the nine months of the year. ISS stated its nine-month revenue as \$88.9 million, as opposed to \$76.1 million for the same period a year ago. According to this statement, IPS has overtaken sales of tradi-

IDC also points out that several of the top vendors in the IDP market - McAfee, Net-Screen Technologies (which Juniper bought last year) and Top Layer Networks - generate their revenue through IPS products alone. IDC also cites the explosion of new market entries in the last six months as an indicator of growing demand for IPS.

On the host-based IPS side, eEye Digital Security's Blink software and products from start-ups such as Bodacion and Determina were introduced this year.

On the network-based IPS side, the newproduct barrage came from start-ups such as Barrier Group, Beadwindow and Captus Networks. A few, such as Sentryware, offer network- and host-based IPS.

McAfee recently unveiled two new versions of its IntruShield IPS, the multi-gigabit models 4010 and 3000 with expanded ports for large corporations and ISPs.

Amid this cornucopia of IPS offerings, there's no shortage of early adopters willing to try network-based IPS to protect their networks through blocking.

"I look at it as a disaster-prevention element," says Eben Berry, manager of IS at managed healthcare provider Network Health in Cambridge, Mass., which serves 60,000 Medicaid recipients. The healthcare organization uses V-Secure's 100M bit/sec V-100 appliance at the perimeter to block attacks on its Web site.

Berry says the V-100 appliance doesn't rely on signatures to pinpoint attacks but instead monitors patterns of activity. On its internal LAN, Network Health deployed a different IPS: Juniper's NetScreen IDP-100, because it can filter on a bidirectional basis, something V-Secure's appliance only recently added.

Todd Woyke, engineer at Diversico Industries, a tool manufacturer in Minneapolis, decided to use Barrier Group's IPS after being blitzed repeatedly by dozens of computer worms and hackers that broke into servers. "So far, all I can say is we aren't seeing any intrusions," Woyke says, and adds he's sold on intrusion prevention.

The new host-based IPS products are getting attention, too.

Jim Cupps, chief information security officer at Sappi Fine Paper in Boston, says the company, which has to watch over about 10,000 desktops and several hundred Microsoft-based servers, recently started using the Determina host-based IPS called Memory Firewall on a few key servers, mainly as an added defense against worms. Sappi continues to use anti-virus software, too.

The behavior-based Memory Firewall can detect buffer-overflow attacks, which offers added protection against worm outbreaks when it's necessary to patch machines after Microsoft announces a vulnerability."lt's not an alternative to patching, but it does make it so you don't have to immediately patch,"

Charles Dodd, CTO at Cissr Technologies, a managed security services firm in Tampa, Fla., says he's installing eEye's Blink on Windows-based desktops and servers in state government offices.

Blink can prevent a range of attacks even when the latest patch updates haven't been applied to Windows-based machines, he says. "We have to get away from 'panic patching, but if the vulnerability is there, intrusion prevention can help," Dodd said.

School systems also are finding intrusion prevention indispensable.

"The reason I chose McAfee's Intru-Shield is because we had students from other school districts hacking into our information systems," says Rick Corl, director of technical services at the Palm Springs Unified School District in California, which operates a network shared by 28 K-12 school locations with 22,000 students and 2,000 employees. "We also wanted to block malicious denial-of-service attacks."

Although the school system has to cope with some false positives from the McAfee IPS, Corl says it's a small price to pay to secure his network.

#### **Direct hits**

A recent study by Osterman Research showed that

of companies surveyed had been hit with a directory harvest attack in the past year and 36% had suffered a denial-of-service attack in the same time frame.

ministrative console for setup and a reporting engine that can perform threat analysis on selected traffic. It also has traffic-shaping and IP-throttling capabilities so traffic can be slowed and examined before cutting off access. The relay server also can hide internal IP addresses from the outside world.

Because MailGate Edge drops packets it determines are up to no good, there is no quarantine and no storage of messages.

MailGate Edge can process 150,000 messages per hour, per appliance, and works

with all major e-mail servers, including Microsoft Exchange, IBM/Lotus Notes/ Domino and Novell's GroupWise.

"We look at Layers 3 through 7 on the network stack," says Jeff Smith, CEO of Tumbleweed. "We don't do content inspection. We look at the [message] envelope, the IP address, the traffic patterns.

MailGate Edge is priced starting at \$5,000 per appliance.

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## Special Focus

## Extending identity management's realm

#### BY JOHN FONTANA

ith the security benefits and administrative efficiencies of user identity management coming into focus for IT leaders, some experts say those same benefits can be extended to routers, switches, applications, Web services and devices by creating a common interoperable identity model for other nodes on a network.

The thinking is that the two together — the identities of users and things — complete an infrastructure capable of policy-based management and security for the distributed computing environment of the future.

Experts say the goal is to have one place to administer and apply security, and management controls based on a set of policies or permissions that can be applied via identity.

"It's a single point for administering policies, a single infrastructure for enforcing policies and a single infrastructure for storing policies that are applicable to anything that can be named or identified," says James Kobielus, an independent consultant and analyst. "It's about management efficiencies, tighter security and more consistent security across your entire infrastructure."

Users say it's high time the user identity concept was

"Metadirectories, virtual directories, provisioning systems, access management systems, the Security Assertion Markup Language and a slew of other technologies have been focused on people. Now it's time to address other identities: networks, devices, applications, services and other IT objects that must be managed and secured," says Fred Wettling, chairman of the Network Applications Consortium (NAC), a user group with interoperability at the top of its agenda.

Wettling, who also is the infrastructure architect at engineering, construction and project management firm Bechtel, says his interest is pure selfishness. "I want to make my life easier," he says.

#### Standards stampede

It appears others do, too, including standards bodies and major IT organizations such as Boeing, Lockheed Martin, Chevron/Texaco, GlaxoSmithKline and other highprofile NAC members.

Last month, NAC, the Open Group and the Distributed Management Task Force (DMTF) got together to begin creating a framework that describes a common identifier for things.

Another group is working on the same issue. The Extensible Resource Identifier (XRI) Technical Committee at the Organization for the Advancement of Structured Information Standards (OASIS) has been developing a common identifier for network resources that can be shared across corporate boundaries.

"This identifier thing, it's just like a hitching post," says Marty Schleiff, associate technical fellow and cyberidentity specialist at Boeing. It is someplace to bring other pieces of information together, to aggregate them. That aggregation then constitutes an identity from the perspective of whatever uses that information such as a device or an application."

Today, there are many identifiers, such as URLs, media

access control addresses, IP addresses, digital certificates, secure chips in PCs, phone numbers and Universal Product Code symbols that work in well-defined contexts.

The DMTF also has protocols such as the Common Information Model and the Systems Management Architecture for Server Hardware that use this identity concept

Experts say what's missing is a common framework that would make it possible to share identifiers across systems, applications and company boundaries.

"The goal is interoperability," Bechtel's Wettling says. He says a simple example is how USB technology works

in a particular context.

could be applied with a click of a mouse. "One way to look at this is in the context of trusted computing," says Jamie Lewis, president of Burton Group. "If you are going to go to grid systems and trusted computing, the ability to uniquely identify and authenticate a

work or across networks. And identities for users and

things could be combined so a single rule, such as pro-

viding a designated QoS to everything on the network

related to completing year-end financial statements,

specific machine, a specific piece of code and to confirm systems are talking to the right endpoint without human intervention is crucial."

Lewis says the big challenge is how to uniquely identify these items. He says once you do, you have the same issues trying to be solved in user identity management, the proliferation of multiple repositories, redundant information, fragmentation and multiple ways to corre-

"But eventually it comes down to naming. How do you uniquely name something, and in what context does the name have to be unique? Does it have to be unique in the galaxy, planet, country, state, town, company? The larger the context, the more difficult it is because you have to get more people to agree on a namespace," he says. "That is the process that is being worked on now by OASIS and by the trio of the NAC, Open Group and DMTF

The groups met last month and are investigating identity models such as the World Wide Web Consortium's Uniform Resource Identifier or the Open Group's Common Core Identifier (URI) model, which combines a pair of Universally Unique IDs, a mechanism for computing identifiers. The DMTF is talking about its "correlatable" metadata and instance ID technology, for combing various properties associated with a thing that form an identity.

"What we are saying with the Common Core Identifier is that it is simpler if you don't have so many identifiers to manage," says Chris Harding, the forum director for directory and identity management at the Open Group. Harding says there is a list of requirements, including stability, persistence over time and a reliance on different authorities to issue identifiers as opposed to a central registration authority.

#### **Identity for the infrastructure**

Corporate users are starting to see the security and management benefits of user identity management and want to apply the same concepts and benefits to other parts of their networks, such as routers, applications and Web services.

Challenges	Strategies
Create unique identifiers for nodes on a network.	Multiple standards bodies and user groups are working on identity frameworks.
Manage identities.	Whether people or things, multiple identity stores and integration will have to be managed across corporate boundaries.
Tighten security; improve management.	Early success with user management shows this is an attainable goal; now the plan is to include items in the identity plan.

today. A user plugs in a mouse that reveals its identity to the PC, which recognizes it and knows what it can do.

#### The real big picture

On a grander scale, non-human network elements would be able to express their identity and a set of attributes — features, capabilities and limitations — in much the same way as a USB device. Applications that talk to one another such as in a service-oriented architecture model could be authenticated and validated against a directory or a third-party source based on

"We need to get the identifier semantics resolved so that we can leverage our access management, our role-based management and all our security systems, which are userfocused today, to handle other kinds of principals, such as applications," Boeing's Schleiff says.

These non-human identities, much like in the user identity world, would be the foundation for applying permissions, so-called roles and rules, that govern the use and actions of any one thing or collection of things on a net-

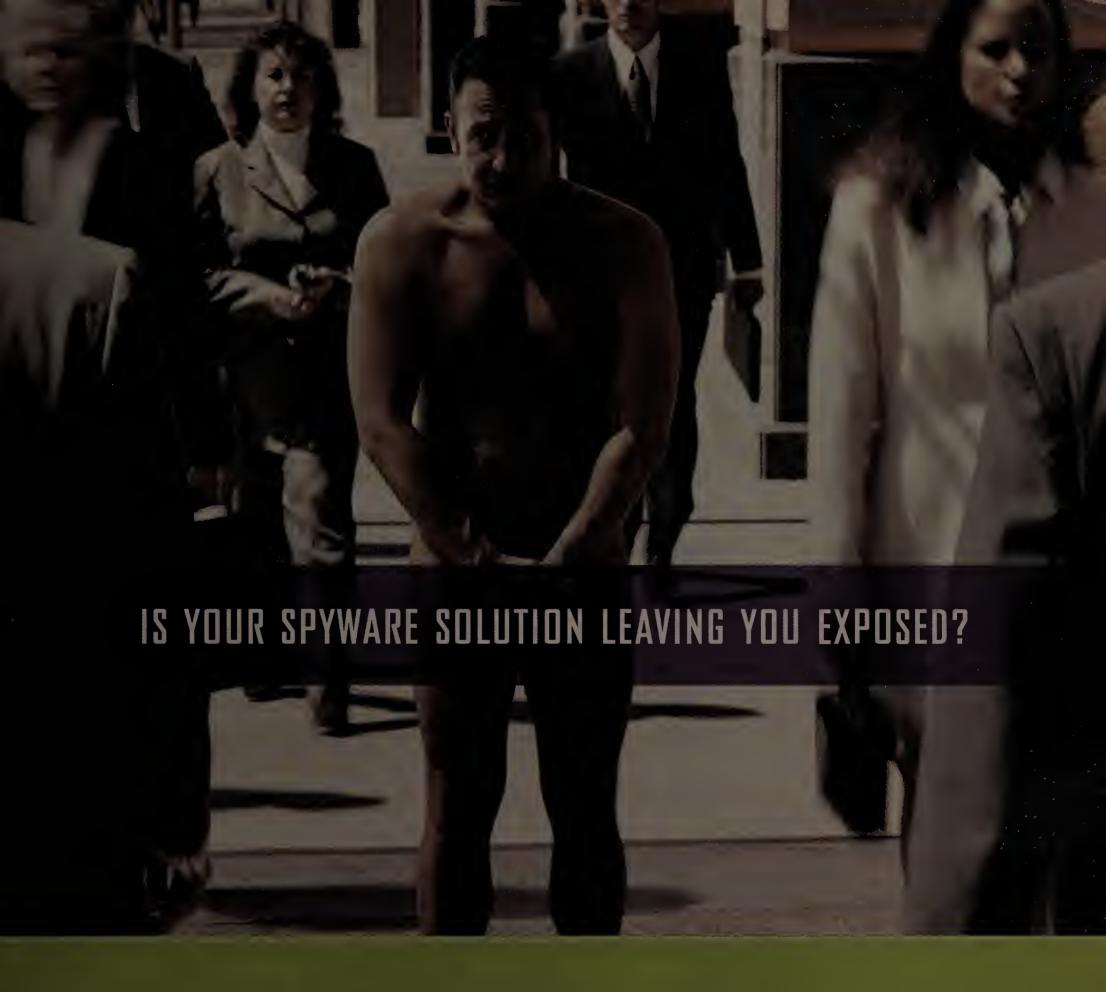
#### The big challenge

"The challenge is for all three of us to agree what the requirements are," Harding says."But there is a feeling we have common ground broadly speaking."

Independent of that work, OASIS has been working on XRI, or what it calls the next generation of URI.

"XRI has features that extend the URI syntax and add persistence, cross referencing and extensibility so you can not only ID the thing, say a network device, but a thing that may move and change owners such as a company-issued cell phone," says Drummond Reed, co-chair of the XRI technical committee, who has been working on identity issues for the past 10 years. "One of the huge problems that these abstract, persistent XRIs solve is by having a common way to express rights associated with

Reed says XRI is the standard on which the industry eventually will agree.





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# Emigror

## Start-up aims to extend Active Directory

**■ BY JOHN FONTANA** 

Centrify this week will launch its debut product, software that integrates Linux and Unix platforms and Java-based Web applications with Microsoft's Active Directory.

DirectControl Suite 1.0 gives users the flexibility to use Microsoft's authentication and authorization services, and policybased management with non-Microsoft desktops and servers. The intent is to centralize directory administration, user access controls and regulatory auditing functions, and provide single sign-on.

DirectControl also can be used to integrate Web applications running on Javabased servers with the directory.

"We feel that Active Directory as a platform has performed well for us, and we want to utilize it with non-Windows plat-

**EMC** this week is expected to roll out a variety of iSCSI-enabled storage arrays. The Clariion AX100i, CX300i and CX500i are capable of attaching to the Gigabit Ethernet network. They complement EMC's Fibre Channel-based AX100, CX300 and CX500 and perform at half the speed. With the AX100i, CX300i and CX500i, customers do not have to deploy costly host bus adapters or Fibre Channel switches. Pricing starts at \$5,000 for the AX100i; a CX300i configured with five 73Gbyte drives, Navisphere management software, installation and three years of service starts at \$23,860.

■ IBM is expanding its low-end servers based on the Power5 processor with a system aimed at customers looking for compact, low-cost Unix systems. The p5 510 Express, aimed at small and midsize compa nies, starts at just less than \$4,000 for a single 1.5-GHz Power5 processor and 512M bytes of memory. The standard p5 510 comes with one or two 1.65-GHz Power5 processors or a sin gle 1.5-GHz processor and up to 32G bytes of memory The standard p5 510 starts at just less than \$5,000.

forms," says Eric Kuzmack, IT architect for Gannett Co.in Silver Springs, Md. The company is evaluating DirectControl.

"Something like this takes the directory question out of the decision process for a particular application," Kuzmack says. "We can look at the platform the app runs on, be it Linux, AIX, Solaris or Windows, because we can now integrate those with the directory. So we evaluate the platform based solely on platform-related issues."

Kuzmack says one feature Gannett is testing is integration with VMware's ESX virtualization platform. DirectControl would let administrators log on to VMware with Active Directory credentials and perform tasks such as setting up a virtual machine or allocating disk space. That integration now is complex and Gannett is looking to rid itself of technologies it uses today, such as Microsoft's Services for Unix, which provide a bridge between platforms and the directory instead of true integration.

Centrify and competitor Vintela are filling a gap that Active Directory creates, which is that non-Windows platforms are walled off from the directory.

"Both companies want to position these as full-blown identity management prod-

#### **Adding links to Active Directory**

Start-up Centrify this week is releasing DirectControl 1.0, which extends the user access controls of Microsoft's Active Directory to Unix and Linux desktops and servers, and Java-based applications.

#### **Feature**

Streamlines directory infrastructure. Integrates Unix, Linux user identities into

Password and policy integration.

End-user single sign-on.

Centralized user management.

#### **Benefits**

Reduces user administration costs.

No need to make changes on non-Windows platforms

Standardization of password and policies helps improve security.

Reduces password bloat.

Streamlines auditing and reporting.

ucts, but I'm leery of that," says John Enck, an analyst with Gartner. "They don't do synchronization, they don't do mainframes, they don't do a lot of stuff; but it does solve the issues of Windows, Unix/ Linux integration, which is a lot."

DirectControl is made up of an agent that installs on Unix or Linux desktops or servers and a set of Windows-based GUI management tools that let administrators provide access to Unix/Linux systems and Java-based Web applications for users.

The agent ties the non-Windows plat-

forms to Active Directory and its services.

The integration doesn't require changes to Active Directory or Unix's Unique Identifiers (UID). The software maps UIDs to a single user account in the directory.

Version 1.0 of DirectControl supports Red Hat, Sun Solaris, HP-UX and VMware ESX. Centrify plans to add support for AIX and Novell SuSE Linux. The applic ation server platforms supported are Apache, JBoss and Tomcat, with WebLogic and WebSphere support slated for future

## **Ibrix touts suite for clustering Linux**

BY DENI CONNOR

Ibrix is rolling out software that lets IT administrators combine I/O and storage resources into a single massive shared environment that can be managed from a central interface.

Founded in December 2000, the company is releasing its first products - Ibrix FusionFS and FusionHA, a parallel and highly available file system for clustered Linux networks.

The Fusion file system is installed on one node in a cluster of x86 servers, where it pulls together the file systems and storage capacity of each server into a pool that can be managed with the management utility, FusionMgr. For additional performance, other Ibrix Fusion servers can be added to the cluster, which share the I/O load and workload balance tasks.

The file system can scale to as much as 16 petabytes of capacity in a single namespace and provide up to 1T byte/sec of aggregate I/O throughput. As many as 8,096 servers can be clustered.

Tommy Minyard, manager of high performance computing at The University of Texas Advanced Computing Center in Austin, installed Ibrix with a 512-node Dell PowerEdge cluster and nearly 6.5 T-bytes of PowerVault 220 storage.

Minyard installed the Ibrix FusionFS on eight servers, which act as I/O engines. Each server in the cluster accesses the lbrix file system using Network File System (NFS), Microsoft's Common Internet File System protocols or a special client software Ibrix supplies.

"We can mount the file system from NFS, which suffers from problems, or we can use the Ibrix client software," Minyard says. "We've done performance comparisons with both and using the client you get much, much better — orders of magnitude — performance."

Minyard also benefited from Ibrix when running I/O-intensive applications.

"A typical application that we have benchmarked is computational fluid dynamics,"

which writes out a large amount of data, Minyard says. "We went from 30 minutes to write out data to under a few minutes.

Ibrix's file system differs from others because it is software only. Systems from Panasas, Exanet and Isilon are hardwarebased. The Lustre File System and Red Hat's Sistina file system modify the Linux kernel and are thus more difficult to integrate, says The 451 Group, a technology analyst firm. File systems from Sun, ADIC, Veritas Software and SGI suffer from scalability issues, The 451 Group says.

"Other file systems we tried wouldn't scale beyond 128 processors, so we didn't have a good solution until Ibrix came along,"

lbrix's FusionHA also lets servers be failed over in the event of problems. The suite of software — FusionFS, FusionHA and FusionMgr -- is designed for customers operating in cluster, grid and enterprise computing environments. It will be available later this month.



## CRM ■ MESSAGING/COLLABORATION ■ WEB SERVICES ERP ■ E-COM ■ NETWORK AND SYSTEMS MANAGEMENT

#### **■ Computer Associates** last week pumped up its asset management suite with a software application the company says will help customers more quickly search assets to determine usage and license information. The package consists of a Webbased application that serves as a front end to other management applications and data resources. Unicenter Asset Intelligence r11 can tap information CA's Unicenter Asset Management collects, which is necessary to run Asset Intelligence. Asset Management collects asset data such as software versions and usage numbers, and Asset Intelligence applies analysis to it, which lets users run reports and perform searches, Pricing for Unicenter Asset Intelligence r11 starts at about

After more than two years of review and deliberation, a key Web

standards consortium has revised its intellectual property policy, and forced contributors to declare whether they plan to collect royalties on work they submit to the organization's technical committees. The Organization for the Advancement of Structured Information Standards will implement the change on April 15. Under the new policy, OASIS' current technical committees will have two years to declare whether the standards they are developing are being released under royalty-free terms, which don't let patent holders charge for their formed after April 15 must declare their IP policy upon creation. The point of the policy change is to simplify things for companies or developers by giving them a clear statement about whether they could pay royalties on software based on the consortium's standards, says OASIS Board of Directors Chair Jim Hughes. The new policy ultimately will make it more difficult for standards contributors to charge for patents.

## IBM builds up software war chest

#### **BY ANN BEDNARZ**

IBM started off the year by announcing three acquisitions in a span of five weeks. Customers can expect IBM to use the technology and expertise it's gaining to deliver software with more comprehensive vertical industry focus, along with services designed to appeal to a range of companies, including small and midsize

Looking ahead, analysts expect IBM customers to benefit from faster, more automated data correlation, analysis and presentation technologies, along with policy management tools that adapt to IT

So far, IBM is off to a good start if it is to maintain the acquisition pace it set in 2004, when it spent more than \$2 billion to make 14 acquisitions, all in software and services. In the fourth quarter alone, it finalized the acquisition of Danish company A.P. Moller's IT services business, along with six other smaller purchases.

Analysts say IBM will keep up or accelerate that pace, fueled by a many factors.

#### **Recent buys**

IBM continues to fill out its software and services business through modest, targeted acquisitions.

Company	Business	Acquisition	Value
Equitant	Outsourcing service provider	Feb. 2, 2005	Undisclosed
Corio	Application service provider	Jan. 25, 2005	\$182 million
SRD	Identity resolution software	Jan. 7, 2005	Undisclosed
KeyMRO	Procurement services provider	Dec. 13, 2004	Undisclosed
Liberty Insurance	Insurance processing services	Nov. 23, 2004	Undisclosed
Services	provider		

Corporate buyers are looking for more complete, less best-of-breed systems, which encourages the bulking up of already broad IT providers like IBM, says Rich Ptak, a principal at Ptak, Noel & Associates. Pent-up demand for IT products, a favorable economy, and the availability of small, reasonably priced companies are adding to the deal-making frenzy,

In keeping with IBM's typical formula, the latest deals are not blockbusters, but rather small, targeted purchases aimed at filling out the company's software and services businesses.

Large deals are not unheard of for IBM - its acquisitions of PwC Consulting and Rational Software in 2002 tipped the scales at \$3.5 billion and \$2.1 billion, respectively. But lately, IBM has focused on executing smaller, more strategic deals that can help fine-tune its strategy, says Joshua Greenbaum, principal at Enterprise Applications Consulting. "IBM has done the big construction. Now they're going in and

See IBM, page 30

## Ignite service helps deliver large files

#### **BY JASON MESERVE**

Ignite Technologies last week unveiled an electronic file delivery service that the company says will ease delivery of large files for corporate customers.

With Ignite Communicator Service, customers upload large files to Ignite's data center for delivery to mobile users, business partners or a remote office anywhere over the Internet. The files — PowerPoint presentations, video, audio, software updates — are delivered to users in the background without affecting the use of the machine that is pulling down the file. Deliveries can span multiple connections, so if a user goes offline in the middle of a download, Ignite will pick up where it left off, says John Rothwell, Ignite's president. A system tray message alerts users when the download is complete.

The service, which the company describes as a "digital FedEx," also looks to make deliveries more efficient by using local copies of a file as download sources. After a branch-office user downloads a file, other users attempting to do the same will get a copy from the first user's PC, which saves bandwidth on the WAN.

Despite just going public with the technology, Ignite (formerly known as CABC) has worked on its service for the past four years and already has a number of customers. The sales training department in Canon's Imaging System Group (ISG) uses Ignite to deliver training videos and presentations to some 8,000 dealers around the globe, says Mitch Bardwell, the group's director.

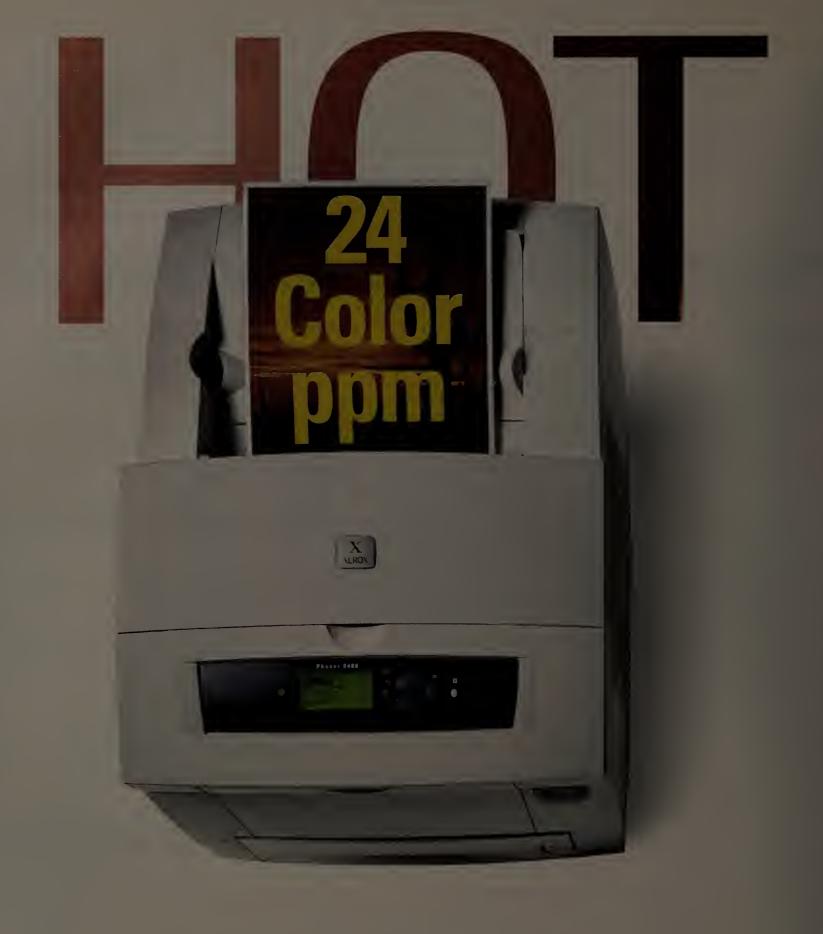
Prior to using Ignite, Bardwell's group distributed information by mailing out CDs. Now dealers can get information directly from ISG's Learning Zone, an e-learning portal that ties into a learning management system.

Ignite's ability to perform automatic version control is also a high point for Bardwell. ISG sends out a big PowerPoint presentation twice a year to a large sales channel that covers the division's entire product line of copiers, scanners and fax machines. "You can imagine how that changes," Bardwell says. With Ignite, every time a change is made to a file, it automatically pushes it to anyone who downloaded it originally "without them having to do anything. It does it in the background out of the system tray and pops up, 'Here is a new version,' "he says.

Users need a small application on their Windows machine to use the service. For multimedia files, Ignite uses its own player technology to stream audio and video, rather than one of the popular clients such as RealPlayer, Windows Media Player or Quicktime. Like regular files, streamed media is protected with digital rights management technology. Customers can upload standard video files to Ignite or send in tapes for conversion into the proper format. Bardwell says there's about a 24-hour turnaround on materials he sends in.

Ignite competes with the likes of Trusted-Media Networks and Kontiki, both of which offer systems for delivering files in the background.

Ignite says the average deal for the Ignite Communicator service is around 10,000 users priced between \$50 and \$60 per seat, annually.■



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e all knew it would happen sooner or later — one of Ma Bell's kids is buying its mother (shades of Greek tragedy). But is Mom worth the price?

Here's what SBC will get for its \$16 billion:

- A very traditional telecommunications company with a solid infrastructure to support long-distance phone calls in a world where long-distance is a dying business and is being given away with many cell phone packages. It also gets a company with a plan in place to throw away all of the already amortized equipment and replace it with new and expensive VoIP gear.
- A lot of corporate long-distance customers, most of whom pay very little per

### **Oedipus techs**

minute.

- A substantial IP- and Multi-protocol Label Switching-based data network, which serves generally the same locations and offers generally the same services as Sprint and MCI (See www.nwfusion.com, DocFinder: 5827).
- The dusty wall plaques and empty corridors of part of a once-great research lab.
- The ghosts of many failed dreams of leapfrogging technologies, including wireless last mile (one example, local multipoint distribution services broadband wireless), voice-over-cable (which was not VolP),ATM as a customer service, Switched Multimegabit Data Services, Wi-Fi hot spots (with Cometa), etc., etc.
- The ghosts of many failed attempts at content-based business models, including: publicly touting a decision to add The Hot Network, a purveyor of hard core pornography, to its cable TV offerings; a proposal that lasted about 10 minutes to charge its

e-commerce ISP customers based on the value of transactions conducted over the 'Net; and more recently, plans to develop a content-aware network (see www.nwfu sion.com, DocFinder: 5828).

- A brand name that was thoroughly trashed by its use on one of the worst-managed cellular services ever.
- A boatload of fiber in the ground in a fiber-rich world.
- A bunch of employees SBC has already said will get dumped.
- The long-distance service on my home phone, which generates little revenue because of the calling package that came with my new cell phone.

To sum up, that seems to leave some notvery-profitable businesses in areas of strong competition, and a faded brand name that some observers thought might be dumped after the purchase. A good deal for the higher-level management folks at AT&T with their stock options and for anyone who bought AT&T stock in the middle of last year and hung on to it, but it hardly seems like a good deal for SBC.

One news story I read said that the "experts" felt that no one else would try to top SBC's bid — well, I guess so!

The folks at SBC who decided that the tarnished shell that is AT&T was worth \$16 billion clearly are looking at different factors than 1 have been able to find. Or maybe they're using some of the distortion glasses I saw used many years ago at the Harvard Psychology Department that make everything appear upside-down.

Disclaimer: I'm sure Harvard appears upside-down to some people, but it's hard to tell after you have been wearing the glasses for a while. In any case, the above value judgment is mine alone.

Bradner is a consultant with Harvard University's University Information Systems. He can be reached at sob@sobco.com.

#### IRM

continued from page 27

adding the doorknobs and picking the interior paint colors," Greenbaum says.

It makes sense for IBM to target vendors that can be acquired at reasonable or bargain prices and quickly return value to the company, Ptak says. "IBM is avoiding the burden of overvalued and overpriced midtier companies with an inflated sense of themselves and their net worth," Ptak says. "There are a number of companies with the potential to complement IBM's offerings, but these won't be acquired because they have priced themselves out of the acquisition market."

Most recently, IBM announced plans to acquire outsourcing services provider Equitant for an undisclosed amount. Equitant specializes in handling companies' financial processes related to order management, such as order capture, credit management, billing and collections.

In the big picture, Equitant's finance and administration services are expected to help IBM capitalize on the market for what it calls "business performance transformation services"—a combination of software, consulting expertise and engineering assistance to help companies make over key processes

IBM CEO Sam Palmisano said last year that such services represent a \$500 billion market opportunity, over and above the \$1.2 trillion that companies worldwide spend on IT products and services each year. In 2004, IBM took in \$3 billion in business performance transformation services revenue — a 45% gain over 2003 revenue, according to Mark Loughridge, IBM's CFO.

The Equitant news followed announcements in January that IBM will acquire application service provider Corio for \$182 million, as well as SRD, which makes identity-resolution software, for an undis-

closed price.

Corio provides businesses with pay-asyou-go access to applications from vendors such as Ariba, E.piphany, Oracle, SAP and Siebel Systems. Its experience delivering application services to SMBs, and its ability to quickly provision and deploy applications, are what made Corio attractive to IBM, analysts say.

SRD brings a niche technology that can help fill out IBM's information management business. Its software is designed to help companies discover non-obvious relationships among their customers — such as demonstrating obscure links between people who could be in cahoots, or discovering that two or more individuals thought to be separate people are in fact the same person.

The technology could help enhance IBM's presence in markets such as manufacturing, banking, insurance, retail, health-care, telecommunications and the government, says Robert Lerner, a senior analyst at Current Analysis.

#### **Buying and selling**

In some cases IBM's buyouts go hand in hand with big services contracts. In tandem with the December news that IBM will acquire procurement services company KeyMRO from its three shareholders, IBM announced a 7-year deal to provide procurement services to the three sellers: Schneider Electric; specialty chemicals company Rhodia; and media and entertainment services provider Thomson.

Likewise, IBM plans to use its acquisition of Liberty Insurance Services (LIS), announced in November, to create a subsidiary to handle life insurance and annuity processing, and administration for insurance companies — including LIS parent RBC Insurance.

Increasing vertical expertise is often a driver. IBM's acquisition of Danish IT services firms Maersk Data and DMdata — and

coinciding consulting and IT services deals with sellers A.P.Moller and Danske Bank — have increased IBM's ability to serve clients in the transportation and logistics industry, Loughridge said late last month in IBM's 2004 earnings call with analysts.

Customers stand to gain if IBM captures greater vertical expertise and packages it for buyers, experts say.

Looking ahead, IBM will continue to con-

centrate its acquisition efforts on technologies that complement its current capabilities, Ptak says. He expects IBM to go after more automated policy management and maintenance tools that can adjust to changing IT conditions. Technology for correlating data and events, as well as technology aimed at addressing compliance-related security issues, also are ripe for IBM buyouts, he says.

## WebEx Web conferencing service gets convergence boost

**BY TIM GREENE** 

Customers of the WebEx Communications Web conferencing service soon will be able to conduct voice-data collaboration calls with less confusion about who's talking.

The company has started replacing its TDM voice infrastructure with IP, making it possible to blend voice and data on its network. One benefit will be that when a person's name will be highlighted on the computer screens of participants. Until now, talkers had to identify themselves.

The service will also be able to send screen pops that notify customers when their WebEx conferences are about to start.

WebEx enables audio and Web conferencing, with the data portion of the conferences traveling over the Internet and the voice component being handled by the public phone network.

The company has started converting its network, but it will take until June to move all its 14,000 customers over to the new platform, says Shawn Farshchi, WebEx Communications' ClO. WebEx says it will add a new feature each quarter after it has all its customers moved to the VoIP service.

The new IP platform is based on Sonus equipment.

Additional benefits include the ability to host larger conferences, Farshchi says. With the TDM technology, WebEx could pull together 125 concurrent callers on one audio call; with IP, that number jumps to 500. Farshchi says.

It also will be possible to conduct global audioconferences with each participant who makes a local phone call to an ISP, or uses a dedicated Internet connection to participate, he says. With TDM technology, users have to dial long-distance to a conference bridge.

As a result, the cost of delivering these services will drop 30%, Farshchi says.

Users without Internet access also can dial directly to WebEx's network over the public phone network and be conferenced together with those connecting via VoIP and the Internet, he says. This creates hybrid conferences that TDM cannot support, Farshchi says.





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\*Market share from Gartner Dataquest, Tape Automation Systems Market Shares, 2003, F. Yale, April 2004

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## As industry deals continue, questions arise

Experts offer advice on how to navigate a shifting telecom landscape.

#### **BY CAROLYN DUFFY MARSAN**

The spate of recent telecom deals means that all of the top-tier providers are in some stage of flux, which creates a situation that offers opportunity and risk for corporate network managers.

Here are some general tips from analysts who track the industry:

• Customers of the top-tier service pro-

senior analyst at TechCaliber. The reason that Equant, Infonet Services, AT&T and possibly MCl are being acquired is for their enterprise customers. The new owner wants your account, Rohde says. "In general, you should not leave your current carrier even if it is being bought," Rohde says. "In the past, that wasn't always true. But it seems to be true now."

• If your contract is up for renewal, issue

viders should stick with their carriers dur-

ing the acquisition, says David Rohde, a

• If your contract is up for renewal, issue a competitive bid. Don't be surprised if both companies in these pending merger deals submit a bid. "If I were a network manager looking at a bid from SBC and another one from AT&T, I'd certainly play

one off the other anyways, but I'd do so more aggressively right now," says Brian Van Dussen, director of telecom strategies at The Yankee Group.

• Try to renegotiate even if your contract is not up for renewal, because by next year your leverage will be diminished, analysts say. "If there's any leeway to renegotiate, now is the time to do it," says Melanie Posey, research director of the telecom market at IDC. Posey says that service providers such as AT&T that are being acquired want to bring current contracts to the new parent company. "Presumably, AT&T would be more willing to make sure that they bring the maximum number of customers to SBC," she says.

- Don't move all your traffic to one of the RBOCs, experts say. All the RBOCs have national strategies, but those strategies are up in the air now that SBC is buying AT&T. Instead of building out their own national networks, the RBOCs appear to be buying infrastructures from others. RBOC enterprise customers might have to transition their services to other networks if deals such as the SBC purchase of AT&T and a possible Qwest or Verizon purchase of MCI come to fruition.
- If you have global needs, consider Infonet or Equant, Rohde says. The new owners of these providers — British Telecom and France Telecom, respectively
   See Contracts, page 36

#### . . . .

■ WilTel Communications is set this week to announce it is launching a managed version of its EWAN service. The original offering is a highbandwidth WAN service that supports local Ethernet connectivity at either end of that connection. But because metropolitan Ethernet services are not ubiquitous nationwide, WilTel now offers its Managed EWAN service, which lets customers buy private-line services for locations where Ethernet is not available. WilTel deploys a media converter at each location so that users still can send native Ethernet traffic over their private-line service. WilTel says the service lets users connect more sites to the same network. Pricing was not available.

■ BellSouth this week said it has selected Alcatel and Redback Networks as suppliers for a next-generation broadband buildout. BellSouth tapped Alcatel's 7330 DSLAM and Redback's SmartEdge 800 Service Gateway as components of a hybrid fiber/copper IP network to deliver voice, data and perhaps video service. Terms of the agreements were not disclosed. The RBOC said its network upgrade will let it deliver more than 12M bit/sec of bandwidth over a single copper telephone line and more than 24M bit/sec over a bonded pair. Those links from homes and small offices will come from BellSouth's fiber-to-the curb network, which passes more than 1 million homes

## Schools learning broadband lessons

New Orleans' embrace of optical Ethernet service an example of growing trend.

#### **■** BY JIM DUFFY

In an effort to comply with the federal No Child Left Behind law, the New Orleans public school system is subscribing to a managed optical Ethernet service from Cox Communications.

The network is an example of the technology initiatives educational institutions have undertaken as they look to support an expanding number of computers in the classroom. It features a 40G bit/sec dual ring at its core with 1G bit/sec access rings, and Gigabit and Fast Ethernet access links from each school.

The network will connect 90,000 students in 140 schools and support converged Internet access, VolP, IP/H.323 videoconferencing and distance learning. The optical Ethernet service replaces the school system's frame relay and voice overlay networks that supported limited videoconferencing, according to Cox vendor Fujitsu Network Communications.

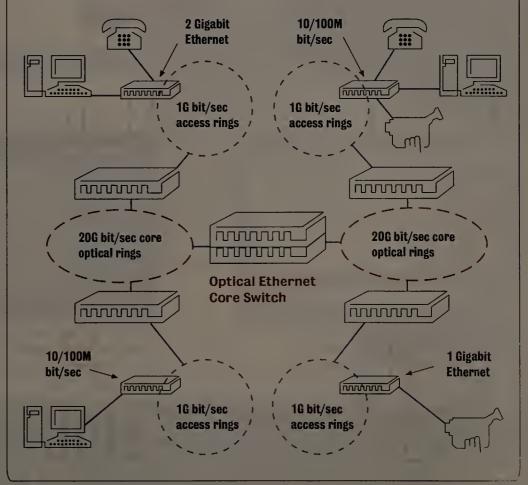
Healthcare, education and government entities are the top three vertical industry segments for retail Ethernet services, according to Vertical Systems Group. Combined, these segments account for more than three-quarters of the total base of Ethernet customer ports installed in 2004, Vertical says.

Other analysts concur.

See School, page 36

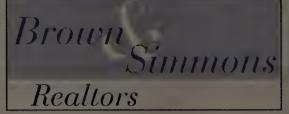
#### **Seeing the light**

New Orleans Public Schools opted for a managed optical Ethernet service from Cox Communications to link 140 sites and support voice, data and videoconferencing for 90,000 students.



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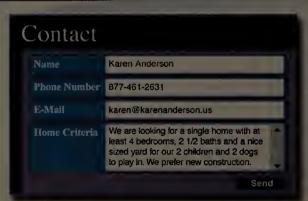
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EYE ON THE CARRIERS

Johna Till
Johnson



here's a wonderful quote at the beginning of James Stewart's classic book *Den of Thieves*: "At the most basic level, American capitalism has flourished because everyone, rich and poor alike, has seen the marketplace reward merit. Violations of the law are not victimless crimes. When [they occur], our confidence in the underlying fairness of the market is shattered. We are all victims."

Stewart was writing about insider trading by Wall Street arbitrageurs, crooks like Michael Milken, Ivan Boesky, Martin Siegel and Dennis Levine, who trashed public companies for fun and profit. The book was published in 1991, back in the more

#### Hate Sarbox? Blame Bernie Ebbers

innocent days when CEOs were good guys who delivered value to customers and created wealth for employees and shareholders.

But Stewart's main point still holds: Lying and cheating about finances are not victimless crimes. The casualty of such behavior is trust — trust that the folks in charge are behaving ethically, that they're telling the truth about what's going on in their companies and markets. When trust goes, it gets replaced with expensive and onerous regulations, such as Sarbanes-Oxley (SOX) — and that hurts all of us.

Every ClO I've spoken with lately laments the toll that SOX is taking on their companies — billions of dollars that could have been spent on technology innovation, market growth or serving customers, now is going to prove that the CEO isn't a crook

Blame Bernie.

Bernie Ebbers — and CEOs like him, the

Gary Winnicks and Ken Lays — didn't just take down companies, bankrupt employees and shareholders, and kick the stuffing out of entire industries. They also saddled American businesses with expensive regulatory overhead that will depress growth for decades.

And that's regardless of whether Ebbers is found guilty of the specific crimes for which he's on trial in Manhattan. (He's charged with conspiracy, securities fraud and filing false financial reports.) Even if the man walks, the consequences remain.

It's no secret that I hope he doesn't walk. I hope someday Ebbers takes his final breath in jail (he faces a maximum sentence of 85 years). Yes, that sounds harsh, even unfair. Ebbers' lawyers argue that he's a victim, not a conspirator. Sure, they say, stuff happened "on Ebbers' watch," but all the really bad crimes were committed by someone else.

I'm sorry, but I come from a military fam-

ily. According to the U.S. Navy, a ship captain bears all accountability for events that occur on the ship. Even if there was no possible way for the captain to know about — let alone prevent — a crisis, the ultimate outcome is the captain's responsibility.

That's what it means to be in command. If you can't take the responsibility, you aren't worthy to serve.

That's the truly tragic consequence of Ebbers' misbehavior: We have to assume the people in charge of any public company aren't worthy to serve, that they're cheats, frauds and crooks. And so we need expensive and cumbersome regulation to protect ourselves against crimes they might never commit.

Johnson is president and chief research officer at Nemertes Research, an independent technology research firm. She can be reached at johna@nemertes.com.

#### School

continued from page 33

"When looking at K-12, they are definitely starting to expand, looking at broadband services, which includes optical Ethernet," says Stephanie Atkinson, a senior analyst at In-Stat/MDR. "The biggest thing is budgets: A lot of these investments can be refundable depending on what it is. In some cases, you've got up to 80% discounts on technology services through the E-Rate program at the federal level."

But the No Child Left Behind initiative

#### **Contracts**

continued from page 33

- are committed to global expansion. In contrast, AT&T might not be as committed to building out its global IP infrastructure with an RBOC as its owner. The same fate might befall MCl. So Rohde advises network managers with global locations to take a look at Infonet and Equant.
- Smaller providers such as Broadwing or Global Crossing might have a tougher time competing against newly formed behemoths such as SBC/AT&T. "With these carriers you want as little commitment as possible," Rohde says. "They're really the ones that are most disadvantaged by all of this [merger] activity."
- Keep your eye on the details of how the merger will be executed. If your carrier has been acquired, you want to get as much information as possible about how and when your traffic will be moved to the new parent company's network. "You need to ask about the timetable for migrating that traffic and how long the parallel networks are going to be in operation," Posey says. "You need assurances that the traffic migration is going to be handled in some kind of systematic way and with fail-over built into the system." ■

has a lot to do with it, too, Atkinson adds. One provision of the No Child Left Behind Act of 2001 is more flexibility for states and school districts in how they spend federal education funds in exchange for strong accountability for results.

That increased flexibility includes authority for states to transfer up to 50% of the funding they receive under four major state grant programs — Teacher Quality State Grants, Educational Technology, Innovative Programs and Safe and Drug-Free Schools — to any one of the programs. Much of that shifting ends up in the educational technology bucket.

"A lot more applications from a K-12 perspective need or require a network like that," Atkinson says. "Now you've got six to 12 computers per classroom, and that's driven by No Child Left Behind."

Cox has deployed optical Ethernet switches from Atrica for the New Orleans network. Atrica's A-8100 core switches are installed at hub locations, while A-4100 aggregation switches populate select aggregation sites and A-2100 edge switches deliver services at each school or administration site.

The Atrica switches support integrated TDM services via circuit emulation and Metro Ethernet Forum-compliant Committed Information Rate capabilities which lets Cox control and equalize between New Orleans Public School sites and ensure QoS and service-level agreements. The switches also support 50-millisec failover through Multi-protocol Label Switching (MPLS) Fast Reroute techniques, Atrica officials say.

QoS is also MPLS-enabled as the switches map IEEE 802.1p Ethernet priority bits to explicit Multi-Protocol Label Switching paths, Atrica says.

Cox is Atrica's first U.S. customer. Fujitsu, through Fujitsu's Flexible Architecture for Subscriber Service Termination joint marketing program, referred Atrica to Cox. ■

## GoRemote offering more mobile access options

#### **BY DENISE PAPPALARDO**

GoRemote Internet Communications is offering mobile users more access choices and expanding the geographic reach of its network through two roaming deals.

GoRemote (formerly known as Gric Communications) last week launched its Mobile Office Revolution service, the successor to its Mobile Office offering. The new service bundles an array of mobile access technologies including free, standard and in-flight Wi-Fi, wireless 3G and landline offerings including Ethernet and DSL.

For the first time, a GoRemote customer will be able to use free Wi-Fi service offered at a coffee shop or fast food restaurant with the same client they use when on a paid service or connecting via Ethernet at a hotel.

One user is happy to see GoRemote is adding free Wi-Fi to its list of access choices.

"Indeed we plan to let employees use [free Wi-Fi], and we're even happier they are tracking the hot spots so we don't have to go looking for them," says Lee Jones, vice president of IT and CIO at Stratex Networks in San Jose.

Wi-Fi service providers have said their paid services are more reliable and secure than free services. GoRemote says now that it has incorporated free Wi-Fi services with its standard client, users have the same secure connection regardless if the hot spot is from a free or paid Wi-Fi service.

When users turn on their laptops, the GoRemote client reveals all access methods available and a rating for each free Wi-

Fi hot spot. This rating system will be based on GoRemote customer feedback. The rating system will help users determine the quality of the free hot spots based on reliability and signal strength.

GoRemote also signed a deal with Connexion by Boeing, a business unit of The Boeing Company. GoRemote users will be able to use the Connexion inflight Wi-Fi service as one of the thousands of hot spots available to all GoRemote customers.

There will be an additional fee for the Connexion service, but GoRemote would not reveal pricing.

Stratex plans to let its employees also use the in-flight Wi-Fi service, Jones says. The company has about 250 employees using GoRemote, and the majority are outside the U.S.

"We have a large manufacturing plant in New Zealand. That's a 14.5 hour flight from the U.S.," he says. "The increased productivity is our ROI." ■



Corporations are suddenly uncertain about what to do next with wireless. Breakthrough the analysis paralysis at an upcoming Tech Tour event called "Wireless & Mobility: Commanding Broadband Everywhere."

DocFinder: 5837

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### AGILLULLI AN INSIDE LOOK AT **FECHNOLOGIES AND STANDARDS**

## Modular OS design cuts downtime

BY SAM FARSAD

Today, companies require infrastructure uptime of 99.999% (five nines) to maximize the performance of business-critical applications and increase productivity. Unfortunately, traditional Ethernet LAN switching systems were not designed with the features and functionality needed to support this level of reliability. A new development to help solve this problem is the use of modular architectures in Ethernet LAN switch operating systems.

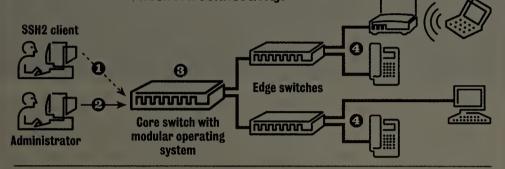
The health and robustness of an Ethernet switch operating system is critical to maximize network uptime. Traditional monolithic operating system designs use one static-compiled image and run in a single memory address space. This means that network switches are always running in an "all or nothing" mode. If any one element or application within an operating system fails or needs to be updated, the entire system must be shut down and restarted, ceasing all packet flows.

With a modular design, network functions are broken up into distinct processes with standard interfaces. In this architecture, the clearly defined processes operate independently. If a new process needs to be added or one should fail, require an update or need to be managed independently, the status of that process will not affect any of the other functions of the switch. This means the switch can continue delivering network services and constant connectivity to users.

The main elements of a network switch modular operating system are a kernel and a set of dynamically loadable applications with their own separate and protected memory spaces. The kernel is protected

#### **Modular switch operating system**

HOW IT WORKS A modular switch operating system breaks network functions into distinct processes. As such, application modules can be added or updated without interrupting network connectivity.



- An SSH2 client attempts to connect but can't because the switch operating system does not include the
- 2 An administrator uploads an SSH2 software-loadable module to the switch operating system.
- 3 The switch dynamically updates its software image with the SSH2 module.
- 4 During steps 2 and 3, network connectivity is not broken. Network data and voice traffic is maintained with no packet loss. VoIP calls and wireless communications are maintained. SSH client can now connect to the switch

from service and application failures. Each process can be monitored to determine if it is operating correctly. If there is a problem, the process can be restarted dynamically thus avoiding a reboot of the entire system. This maintains the uptime of the underlying infrastructure, system applications and overall operating system.

Network administrators can eliminate scheduled downtime to deploy security or maintenance updates. The network devices can be upgraded or serviced during periods of average demand, and network users and applications can continue working without interruption.

A modular approach also enables the loading of new application modules during run-time operation without affecting device uptime. For example, an application such as Secure Shell can be loaded and started dynamically, which enables deployment of secure remote management for a network device without affecting data traffic forwarding.

By contrast, if an administrator wanted to install a new application module on a switch running a monolithic operating system, the whole operating system package would be downloaded to the switch. A switch reboot would be required to enable

the new functionality within the uploaded operating system. All network communication would be temporarily lost until the operating system was back in operation and network connectivity reestablished.

Another benefit of a modular switching operating system is graceful start and stop capabilities. These enable the replacement of an application in the event, for example, of a new vulnerability alert against a protocol or its implementation.

What's more, dynamic loading and start/stop capability make it easier to manage applications that go through more frequent technology refresh cycles. For instance, a new wireless security protocol can be deployed without affecting wired data connectivity to servers or VolP traffic.

A modular design also allows for adjustments to an operating system kernel while a switch is in service. As new functionality is needed within a kernel, a loadable module is used, which avoids direct modification of the kernel. Kernel-loadable modules provide features such as virtual LAN mappings, QoS mappings, multicast cache handling, access control list updates and processing. Kernel-loadable modules facilitate the process of adding more value to a kernel without a full replacement of it.

Using a switching infrastructure with a newer-generation modular operating system helps companies build a robust enterprise Ethernet LAN infrastructure with the higher availability needed to support multiple converged applications, including VolP and wireless data

Farsad is vice president of software engineering for Extreme Networks. He can be reached at Sfarsad@extremenetworks.com.

#### ASK Dr. Internet By Steve Blass

We are being challenged by users who eat up bandwidth with streaming radio and video. We could block it, but some usage is OK because people occasionally view business-related Webcasts. Is there a way to distinguish the streams?

You have to distinguish between types of connections on a case-by-case basis using protocol and source address information. Products from Websense and Verso control streaming media

access, which includes managing the everchanging blacklist of streaming sites and protocols. The open source Web proxy Squid can block streaming connections - if you can identify the Multi-purpose Internet Mail Extensions headers used by the streams you want to block and construct firewall rules to stop well-known

Because many media streams fail over to Port 80 when other ports and protocols are blocked, it could be difficult to manage this through technical means. Without strict workstation and network configuration management, clever users can work around any technical solution. Publish an acceptable use policy, declare your intent to enforce it, and then follow through.

Blass is a network architect at Change@Work in Houston. He can be reached at dr.internet@change atwork.com



n the words of William Tell on his first attempt: "Oops." The week before last we threatened to discuss a system called QEMU but then last week we got thoroughly sidetracked. So without further ado, we return to our story:

The QEMU emulator (details at www.nw fusion.com, DocFinder: 5842), created by Fabrice Bellard, is a processor emulator that mimics any number of simulated processors and supports a variety of host operating systems.

We must digress for a moment to note that Bellard is a digital overachiever, having won not one but two awards in the International Obfuscated C Code Contest (more information at DocFinder: 5841). Bellard won in 2000 for the Most Specific Output (a program to print the biggestknown prime number, 2^6972593-1, in base 10) and again in 2001 for the Best Abuse of the Rules (for an Obfuscated Tiny C Compiler for i386-linux).

Anyway, the QEMU emulator is fascinat-

#### **Un-sidetracking from last week**

ing in its range of abilities and design. A really nice feature is that QEMU is robust, an attribute that can be impressively demonstrated by making QEMU emulate itself (a technique described as "self-virtualization") by running an instance of QEMU under another instance.

It is important to note that QEMU is not a virtualization tool but a true emulator. In other words, QEMU is not making a separate, protected chunk of memory that the processor switches into and out of, but rather runs as a program that interprets the code of a supported operating

Given the complexity of this architecture, QEMU's code interpretation speed is remarkable. For more insight into the sheer complexity of what QEMU does and how it does it check out the QEMU Internals section (DocFinder: 5843).

#### **Dual emulation**

QEMU has two operating modes: In system emulation mode, which allows you to load, run and unload complete operating systems without rebooting the host system, QEMU appears to be a complete computer system to the applications running on top of it.

This virtual computer comes with a

processor, PC and VGA BlOSes, and various peripherals, including an i440FX host PCl bridge and a PIIX3 PCl-to-ISA bridge, a Cirrus CLGD 5446 PCl VGA card or dummy VGA card, a PS/2 mouse and keyboard, two PCI Integrated Drive Electronics (IDE) interfaces with hard disk and CD-ROM support, a floppy disk, an NE2000 PCl network adapter, serial ports and a SoundBlaster 16 card.

There are two versions of QEMU's system emulation mode, one which uses the host memory management unit to simulate the x86 MMU, which is fast but has limitations (details at DocFinder: 5849). The other uses a software MMU that is roughly two times slower but gives a more accurate emulation.

In system emulation mode running Linux, Mac OS X or Windows, QEMU can emulate a PC with an x86 processor or a PowerPC Reference Platform (see DocFinder: 5844 for more information). A PowerMac system emulation apparently is

The other mode of QEMU, user emulation, runs only on a Linux host and allows you to run Linux processes compiled for one CPU on another CPU. User mode emulation provides emulations of x86, PowerPC and ARM processors, and a SPARC emulation is in test.

Bellard points out that in user mode emulation QEMU "can be used to launch the Wine Windows API emulator [www.winehq.org] to ease cross-compilation and cross-debugging."

So what operating systems can you run under QEMU? The list is impressive (see DocFinder: 5845) and includes BeOS 5 (the Haiku project is attempting to resurrect this outstanding operating system, details at DocFinder: 5846); EtherBoot (DocFinder: 5847); pretty much every GNU/Linux distro; the LA microkernel (DocFinder: 5848) which has its own virtualization project underway); and several flavors of Windows along with old favorites such as MS-DOS, Minix and QNX.

This is a remarkable piece of engineering. While there are faster alternatives -VMware being the obvious choice — as far as we can determine QEMU is the best choice if you are on a limited budget. That said, the real strengths of QEMU don't lie in running as a general-purpose applications platform but rather as a test, debug and learning environment.

We're sure you have opinions. Tell us about your them and let us know your opinion at gearhead@gibbs.com.



on high-tech toys

e've been busy - in addition to previewing the cool stuff debuting this week at Demo@15 (see page 44 for more on the show), we had some time to test a few more cool gadgets.

The scoop: Cordless 2.4-GHz Presenter, from Logitech, about \$60.

What it does: This is a remote device that can control PowerPoint presentations wirelessly (up to 50 feet away

Logitech's device helps keep Power-Point speakers from rambling too long.

> volume on the presentation.

Why it's cool: We've sat through many PowerPoint presentations where speakers had no idea how much time they had left, causing them to ramble. Having a physical reminder (the vibration) could give them a clue that time was running out. The remote was easy to install on our laptop, and controls were

self-explanatory (forward, back, laser pointer, start slide show and black out the screen). Another cool feature is that the USB receiver slides into the remote for easy storage

Our only gripe was figuring out how to set the timer there's one button that sets the timer in blocks of 5 minutes (we assumed that 0:05 meant 5 seconds, not 5 minutes). When we reached the time we wanted, there was no way to automatically start (it starts counting down after 5 seconds). We would have preferred a timer that actually showed seconds counting down. There's also a chance for some interference if you have an 802.11b or g network, since the Presenter uses the same frequency.

Sakar's car visor sound case might not give you the best sound, but it keeps you from having to mess around with a cigarette lighter adapter.

The scoop: SPC-500 Sound Effects MP3 car visor sound case, from Sakar International, about \$30.

What it does: This is a portable speaker system that connects to your car visor so you can plug in your portable digital music player (the pocket fits the size of an iPod) and play the songs through a single speaker. The device runs on a nine-volt battery, and includes a stand so you can remove it from the visor and play the music elsewhere.

> Why it's cool: If you don't want to mess around with those cigarette adapter devices that play music through your car speakers,

> this device is an alternative. However, the sound quality doesn't match that of car stereo speakers. (lf someone comes out with a stereo speaker

version we might get more enthused). When listening to spoken-word audio (such as an audio book or a spoken Podcast), the speaker sounds fine.

Grade: ★★★

The scoop: USB 2.0 Pocket hard drive (5G bytes), from Seagate Technology, about \$160.

What it does: This is a very portable hard drive system with a ton of memory in a round package. The USB 2.0 cable is designed to unwind from the circular casing,

> which makes it very easy to set up, or pack up when you're done.

> > The USB 2.0 Pocket hard drive wins kudos for its unique circular design.

When connected to a PC, the unit has a blue light that tells you it's working. For Windows ME, 2000 or XP (and Macintosh OS 2.2.2 and higher),

no drivers are needed — just plug in and go. Bundled software lets you do things such as resize partitions, create a secured partition, write-protect and view status information on the drive.

Why it's cool: We're impressed with the design of the hard drive. Most portable drives are of the square, blocky, rectangular variety; the circular design is unique. We also love the ability to wrap up the USB cord within the unit, and the size of the drive (it fits easily in the palm of your hand) makes it extremely portable. We were disappointed that there wasn't any back-up software on the bundle, which means backing up any files with the device would be handled with the manual "drag and drop" approach.

Grade: \*\*\*

Shaw can be reached at kshaw@nww.com.



from the receiver), with the additional feature of a countdown timer that vibrates when the timer gets down to 5 minutes, 2 minutes or hits zero. Controls include the ability to go forward or backward, use a

laser pointer and control the



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**ON TECHNOLOGY** John Dix

## **Grid computing** worth a long look

ong discussed, grid computing is alive and kicking and coming to a data center near you. And sooner than you might think.

The mainstream vendors that attended the mostly academic GlobusWorld conference last week in Boston were bullish on grid, saying they have customers piloting grids and looking at significant implementations for 2006.

IBM, HP, Sun and Intel attended Globus World as newly minted members of the Globus Consortium. Formally announced late last month, the Consortium is one of two Globus community efforts to commercialize the widely embraced Globus open source grid technology. The other is the recently formed Univa, a Red Hat-like company that is coming out with a commercial distribution of the open

Both efforts are meant to further development and adoption of the Globus Toolkit, the open source middleware that can be used to virtualize computing environments.

Why grid now? The time is right. By many accounts, average system utilization across organizations is 15% to 20%, while obviously the ideal would be about 80%. And some 20% of IS budgets goes to operations today marginally less than the 25% that goes to capital investments.

We've created large, underutilized, complex environments that are costly to maintain. So there's a huge need to do this better, and the prevailing thinking seems to be that grid is the answer, even though the big vendors are wrapping grid in terms such as utility, adaptive and on demand.

As luck would have it, the arrival of solid grid technology in the Globus Toolkit roughly corresponds with the adoption of service-oriented application architectures. The grid faithful say these service-oriented applications demand grid-powered service-oriented infrastructures.

Grid won't arrive tomorrow, but it adds up to a sensible image of the future we can build toward. The main question is whether the vendors can see enough economic gain to play sensibly together and avoid interoperability problems while still advancing their individual causes.

Kenneth King, IBM's vice president of grid computing, adds it up this way: Cooperate on standards, compete on implementation. "We aim to provide the best software technology to virtualize computing environments and enable grid," he says.

Part of the problem today is there are too many standards organizations, but the new Globus Consortium will help, as will the creation of Univa. And King says he is seeing more meaningful interaction between standards bodies.

Suddenly, grid seems to be gelling, and we can expect real advances this year and next.

> – John Dix Editor in chief idix@nww.com

## opinions

#### After the Big One

Mark Gibbs begins his BackSpin column "The IT Big One: Just a matter of time" (www.nwfusion.com, DocFinder: 5823) with a verse from Noel Coward's song "There are bad times just around the corner." Here's my lyrical response: "And once the Big One hits?"

They'll be malingering up at Microsoft, And inactive all over Intel. Out Cisco way, They'll spend the day Blaming it on Novell. They'll be selling none at Amazon, No dollars will develop at Dell. They'll outsource no more in Bangalore, Oh, curse that Gordon Bell. There's nothing you can do now That Internet is down for the count. You're stuck way back at the kernel now, Just you and your shell account. So purge your cache to your heart's delight, And zap your dynamic RAM. On the Web we'll see not another site,

But at least we'll be free from spam.

Jim Sterne President Target Marketing Santa Barbara, Calif.

#### Pay up and shut up

Instead of titling his column "Managed services: The way of the future" (DocFinder: 5824), Thomas Nolle should have named it "Managed services: The way to pay too much to your local, dominant carrier."

In 1996, Congress passed the Telecom Act to pro-

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, Network World, 118 Turnpike Rood, Southborough, MA 01772. Please include phone number and address for verification.

mote competition in the local exchange carrier (LEC) market. The way you would notice success is that you could get local services from more than one of the Baby Bells, regardless of which incumbent carrier's territory you resided.

Well, the Baby Bells fended that option off really effectively, and in 2005 we still have dominant, uncompetitive LECs. Now to add insult to injury, the LECs are trying to take away legacy WAN options. leaving only the most profitable (for them).

I'd like multiple, linkable PRI E-1s (and the next generation of common channel signaling, higherspeed services), but that option was stillborn. Why? Because it might have created multiple high-volume sellers of commodity broadband in the LEC market. That vision caused executives at the Baby Bells to wake up screaming in the night.

Remember, the business of business is profit. They don't need no stinkin' happy customers. Pay the bill and shut up.

> Stephen Wyman Network specialist Texas Department of Transportation Austin, Texas

#### **Reverse engineering**

Regarding "Forget about sleeping: It's Patch Tuesday" (DocFinder: 5825): I'm always disappointed when a story raises more questions than it answers. In this case, you claim nCircle's engineers are doing reverse engineering, which is illegal under Digital Millennium Copyright Act and violates Microsoft's licensing. But there is no discussion in the story about this illegal behavior. It's like writing a story about the best way to rob a bank, while naively believing that bank robbery is a good career choice.

> Bruce Hobbs Internet consultant Netburg Internet Services Cincinnati, Ohio



More online! www.nwfusion.com Find out what readers are saying about these and other topics. DocFinder: 5821



#### **TOTALLY UNPLUGGED**

Ira Brodsky

### Blogosphere vs. mainstream media

he last decade of the 20th century will be remembered for the global Internet. The first decade of the 21st century will be remembered for blogs.

Depending on whom you talk to blogs are either a loose cannon or the replacement for the mainstream media. The truth, as is

often the case, is somewhere in between.

In an interview on Fox News, former CBS executive Jonathan Klein complained, "Bloggers have no checks and balances....You couldn't have a starker contrast between the multiple layers of check and balances [of the mainstream media] and a guy sitting in his livingroom in his pajamas writing." What really irks Klein is the ability of a handful of blogs to put some badly needed checks and balances on CBS

Charles Johnson, who operates the Little Green Footballs blog, helped prove beyond a reasonable doubt that the documents raising questions about President Bush's National Guard service, presented by Dan Rather on CBS'"60 Minutes" shortly before the 2004 election, were fakes. Using Microsoft Word for Mac OS X, Johnson created a look-alike of one of the alleged documents (sans artifacts of repeat photocopying used to make the document appear old). An animation comparing one of the alleged "documents" with Johnson's re-creation can be viewed at www.nwfusion.com, DocFinder: 5822.

I'm not claiming blogs represent a higher standard of journalistic integrity. Klein is right about one thing: Blogs are the unvarnished products of people who may or may not know what they are talking about. But that misses the point. Blogs are useful because they are immediate, interactive and accessible to anyone who stumbles on a truth the mainstream media, for whatever reason, chooses to ignore.

David vs. Goliath stories aside, blogs are here to stay because they deliver unique value. Blogs' publication and distribution costs are essentially zero. It's still generally true that you get what you pay for. But many blogs serve esoteric subjects and interests with small or scattered followings - opportunities the mainstream media consider unviable.

Interestingly, some of the most popular blogs are organized around news reports from the mainstream media. Some post excerpts from stories on obscure topics obtained by scouring the world's media. Others grab stories buried in the back of major newspapers — if not left out altogether — and place them on the blog equivalent of Page One.

There are a number of blogs devoted to wireless networking. For example, Alan Reiter publishes a blog focusing on camera phones (www. cameraphonereport.com). Wireless Watch Japan provides a window into advanced technologies and applications (www.wirelesswatch.jp/ index.php)

Blogs will complement rather than replace traditional media. They can provide links to multiple sources and a place for readers to contribute immediate feedback. Blogs are not better than the mainstream media, but they are different. And if that extracts additional value from the mainstream media or helps keep them honest, then more power to

Brodsky is president of Datacomm Research of St. Louis. He can be reached at ibrodsky@datacommresearch.com.

Blogs are here to stay because they deliver unique value.



#### **INDUSTRY COMMENTARY**

Frank Dzubeck

ver the past few months, disturbing studies have come to light indicating fear of using the Internet. The fear is directly related to all the bad press and user experiences with viruses, worms, Trojans, spyware, malware and spam that inhabit Internet communications. Operating system flaws that

hackers can exploit have added the potential of identity theft to the growing list of user fears. Keeping software patches, virus definitions and e-mail filters up to date has become a time-consuming administrative nightmare.

Now we find our cell phones and PDAs have the same risks. Our service providers and hosting providers can be severely affected by denial-of-service attacks. New technologies such as Wi-Fi and video cameras have security issues upon installation.

The Internet originally was designed to accommodate computer-tocomputer communications in a closed community. It has evolved into an any-to-any means of communications in an open community. That community is global in scope, totally unregulated and seemingly out of control. The Internet is at a critical point in its life cycle — adolescence. To get to its next stage of growth, the Internet must take a major leap into the realm of trusted communications.

In the computing industry, an attempt is being made to apply a set of open specifications to products that protect and strengthen the computing platform against malicious attacks. The organization responsible for this task is the Trusted Computing Group (TCG). Its members are a major cross section of the semiconductor and computer, software and communications infrastructure industries. The goals of the group cross over into the communications industry but fall far short of addressing the Internet's trust problems.

Ignoring the problems or waiting for a group like the TCG to address the issues will not be enough. It's time to consider forming a companion organization focused on Internet communications — a

#### Can the Internet ever be trusted?

Trusted Internet Group. To be successful, the group's membership must include global service providers, equipment/software vendors, content providers and users.

The formation of an organization like the Trusted Internet Group would not immediately solve any problems, but it would coordinate industry efforts rather than having individual vendors sequentially solve one security problem after another. It might even help to create a distributed security plane within the Internet that would act as an open, autonomic, real-time monitoring, quarantine, repair and maintenance layer.

Creating a trusted communications environment will not come for free. In the computing world, trusted products cost more than their counterparts. Cost is always an issue, but we must focus on the true total cost of use rather than initial or recurring expense. The time, labor, frustration and inconvenience involved in the maintenance and repair of problems associated with the "untrusted" Internet, coupled with the cost of lost productivity opportunity and revenue, is significant.

The time to act is now rather than later. The industry has been winning the battles but losing the war. Recent published statistics contending that 80% of all Internet computers contain spyware (according to the National Cyber Security Alliance) and 31% of Internet shoppers are buying less because of security problems (according to Harris Interactive) are sure signs that the timing is right for change.

The Internet must grow from adolescence to adulthood to achieve the next stage of its ubiquitous evolution. Just as with human beings, this growth cannot occur properly without outside influence, education and oversight.

Creating a trusted Internet needs to be made the No.1 industry priority rather than faster access and better QoS. If we procrastinate now, Internet growth will forever remain in adolescence.

Dzubeck is president of Communications Network Architects, an industry analysis firm in Washington, D.C. He can be reached at fdzubeck@ commnetarch.com.

The Internet must take a major leap into the realm of trusted communications.

Emerging technology moves beyond the perimeter for securing data.

**■ BY SANDRA GITTLEN** 

If the 74 companies showing off their wares at this year's Demo@15 conference, more than half are focused on the enterprise. For a majority of those companies, the message is simple: It's about security, stupid.

IT managers looking to this year's emerging technology conference (produced by

Network World) for hints about the direction security is taking will see a strong shift away from the perimeter to end-to-end data management.

"You cannot put a brick wall around an organization," says Demo Executive Producer Chris Shipley. "The goal [for IT executives] should be to protect data from the bad guys and to protect your CEO."

She says companies that are knee-deep in extending their companies are looking to policies and access rights as a basis for securing corporate data "It's not whether I have a secret knock to get on the network, but do I have rights [to this data]? We're going to start looking at things on a granular basis."

Look for several compliance tools that address this mandate, she says. "The whole issue of compliance is driving innovation."

#### The enemy within

IPLocks' Information Risk Management Platform focuses on deterring internal threats."More than 75% of data theft occurs by employees who have legitimate access to data," says Christine Crandell, vice president of marketing. She adds that data often lies unprotected within corporate databases.

The Information Risk Management Platform has tools for database vulnerability assessment, monitoring, audit analysis, user behavior tracking and regulatory compliance checks. Enterprise managers can set rules for how users normally access databases so that when anomalies occur, they are alerted and can react quickly. They also can equip company executives with a dashboard view of database access for instant analy-

sis of the company's compliance and vulnerabilities.

Version 5.0 of the application, which works with major database platforms, including Oracle, IBM DB2, Sybase and SQL Server, will be generally available in April. Pricing

ranges from \$15,000 to \$225,000, and is based on number of database server CPUs.

#### **Keeping applications safe**

Cenzic is also focused on vulnerability assessment, but at the application level. Cenzic's Hailstorm 2.0 lets enterprise managers automatically test the security of their commercial and custom Web applications.

Mandeep Khera, vice president of marketing at Cenzic, says IT executives must put the same level of focus on policy compliance for Web-based applications as they do legacy applications. "You have to have internal policies and test for strong passwords and make sure you discover vulnerabilities," he says.

Hailstorm 2.0 lets enterprise managers perform stateful application inspection, test from the user level down to the source code, and either employ policies from



Cenzic's Hailstorm tests the security of Web applications.

Cenzic's library or develop their own. The application also features an API for integration with Mercury Interactive's Mercury Quality Center and Mercury TestDirector network monitoring tools.

Khera says financial services firms under mandate from the Graham-Leach-Billey Act can use the tool to attack their applications and report on vulnerabilities. Reports then can be shown to developers to make sure the holes are plugged.

Hailstorm 2.0 is priced on a per-application and subscription basis.

#### New spin on password management

Imprivate is taking a different approach on security struggles that IT managers face by tackling the ever-frestrating password dilemma.

Every user in the corporate environment has a minimum of eight to 10 passwords," says Omar Hussain, senior vice president for product management. "They have passwords for everything. Hotmail, e-mail, network. logins, HR applications and 401(k) infor-

mational sites. And because of compliance and other security issues, more diffi-



Imprivate's OneSign helps IT managers get a bandle or password management.

He says the real victims are IT organizations that have to manage and field help desk calls for creating, resetting and deleting passwords. With strict oversight, IT organizations for industries such as healthcare must verify information about a user before doing any

Imprivata's OneSign is a single signon appliance that integrates with the company's directory to manage password complexity. IT managers plug the OneSign appliance into Active Directory, which downloads user data from the network. The appliance gathers information about the network applications each user employs and then deploys agents to the desktop. The first time a user authenticates via the agent, the tool gathers passwords, and encrypts and manages them at the appliance level. For added security, enterprise managers can implement fingerprint or smart-card authentication. One Sign also features an auditing and reporting tool that lets IT managers track the users' application access. Pricing for OneSign starts at \$15,000 for less than 500

Securing voice traffic

users and \$180,000 for 10,000 users.

While some companies are squarely focused on protecting data, others are trying to meld in security for VolP

KoolSpan CEO Tony Fascenda says the biggest challenge IT executives face in trying to authenticate voice and data over IP is the array of connectivity choices available, including wired and wireless networks.

VolP works well within a network but requires significant configuration changes for remote access — too complex for most users, he says.

KoolSpan created its TrustChip, which features 256-bit Advanced Encryption Standard encryption, to establish an end-to-end connection that recreates the local user experience. "No matter where the user is, we create a secure tunnel, and once you've connected to an internal device, you're recognized as a local user," he says. Fascenda says this avoids the challenges of network address translation and IPSec tunneling.

The TrustChip can be embedded into "an IP phone, a voting machine, a laptop, a PDA, a network switch anything that lets a machine make a connection across a network," Fascenda says. The user plugs in a USB secure token to the device to authenticate and establish a connection across the network to the internal system. 'All the roles and policies map to the user as if he were inside the office," he says.

KoolSpan is licensing the TrustChip on an OEM basis to VolP and other companies.

#### **Analyzing data faster**

Another key element of security is information monitoring and analysis. The advent of real-time data streams and the need for instant analysis of that data poses challenges for IT managers.

StreamBase Systems is launching its StreamBase product, which is supported by the company's Stream Processing technology.

Based on SQL, Stream Processing enables onthe-fly analysis of real-time data, such as data generated by radio frequency identification tags and other sensor technology. Instead of gathering and storing information in a database and then running a query against it, StreamBase lets users perform similar queries in real time. The system can do computations against the data as it moves.

Bill Hobbib, vice president of marketing, says this allows for much quicker reaction to the results of the queries. For example, the military could use

Wireless gear, conferencing tools to debut

ireless and conferencing technologies also are garnering attention at this year's Demo show. Meru Networks is taking a page out

of the cell phone providers' playbook with its new wireless LAN (WLAN)

architecture.

The Cellular WLAN Architecture aims to eliminate the problems with interference that today's WLAN networks suffer.

The new system features the AP 200 access point and the MC 1000 centralized controller. Using a series of algorithms Meru developed, the WLAN monitors the radio frequency spectrum. "Every

access point knows what the other access point is doing on the system," says Joel Vincent, director of marketing. "This avoids interference without having to do site surveys or channel planning.

Vincent says the reliability of the network allows you to run voice calls over wireless without worrying about problems.

"The access points can coordinate and make sure that those calls don't run into each other.

Meru used the cellular network, in which base stations and base station controllers work together to coordinate calls, as its guide.

Convoq plans to unveil its latest service, Convoq ASAP, an easy-to-use conferencing tool that combines instant messaging, e-mail and conferencing services.

Kim Shah, vice president of marketing and business development, says the challenge for IT managers with conferencing is managing scarce resources. He says each company might purchase a certain number of ports, but if more people want to jump on the conference they are out of luck. "There's no ad hoc mode for these tools," he says.

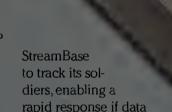
Convoq ASAP lets users access conferences via a Flash window, a Webcam and a headset, with only the host needing the conferencing software. Melded with instant messaging features, Convoq ASAP allows users to quickly initiate a live meeting with video and audio or just video. They also can use presentations via Macromedia's SWF file conversion.

Shah says product managers can use this tool to gather their team on-the-fly and update them on new enhancements, or teachers could post office hours for their students.

Another feature of Convog ASAP lets users post an "I'm available" link on the Web so that they can be accessed quickly. "If I have a blog, I can post this i'nk and then allow readers to ask questions," Shah says

Convog ASAP Express, which stands for "as soon as present," will be available for free for a two-person conference. ASAP Professional costs \$250 per year for 15 people to have unlimited conferences. ASAP Conference, which lets companies do Webinars, is available for an unlimited number of 50-attendee sessions for \$2,500, per year.

- Sandra Gittlen



Meru's Cellular WLAN

**Architecture** has created

a system that eliminates radio interference on wireless LANs.

shows they are missing. Today, he says, users of query technology must wait to pore through the data, which slows response times. "In many cases, data is only useful for minutes after it's arrived. Why not get the results when you can use them?" he says.

IT executives can use StreamBase, which features low latency in microseconds, to find errant activity on the network and deter it in real time. This is important for compliance and regulatory mandates, Hobbib says. The information gathered can be archived to study historical

StreamBase is available via a subscription model for \$60,000 per year or \$200,000 for three years.

#### **Better message management**

Companies worried about compliance are taking a hard look at not only their security and analysis tools but also their message archiving systems. Because e-mail is at the heart of many security and liability concerns, managing messaging is a challenge for IT managers.

Praising Gaw, director of marketing at Fortiva, says IT managers are buried under the requirements for e-mail retention. Fortiva is launching an e-mail archiving service that lets IT managers offload the duty of record keeping.

IT managers, especially those in the financial industry, must store e-mail for up to seven years in case of lawsuits or audits. Gaw says that's a big chore, and the cost to manage and store the data can add up.

The Fortiva Archiving and Compliance Suite is a plugand-play appliance that connects to a company's Active Directory and Exchange servers. Messages are encrypted at the appliance and stored off site. Users can search through the off-site message store despite the encryption. However, Gaw says employing appliance-level protection means that if hackers attacked the off-site machines they would not be able to access the messages. IT managers get the benefit of storage scalability without the hardware and software investment or compatibility headaches, she says.

Gaw says Fortiva also provides policy templates for IT shops so they can improve their compliance initiatives. In fact, IT can offer compliance managers their own tools to keep tabs on the archive.

The Fortiva Archiving and Compliance Suite is available for a monthly licensing fee per user mailbox, with average pricing around \$12 per mailbox per month.

#### Squishing the phish

Security is also top of mind for Cloudmark, which is launching its SafetyBar for Internet Explorer Internet too!. While Cloudmark's other SafetyBar products focus on attacks made against and via messaging systems such as Microsoft Outlook and Outlook Express, this product is targeted at stopping phishing and fraud attacks via the browser.

By addressing the vulnerabilities of Internet browsing,

Cloudmark says it hopes to help companies cut down on threats. CEO Karl Jacob says SafetyBar for Internet Explorer can help thwart phishing attacks that might occur from a user trying to purchase something online with a company credit card or fraudulent attempts to gather information from back-end databases.

The tool, deployed to desktops, lets users mark Web sites they feel are a threat. That data is checked against feedback from Cloudmark's user-based network, which Jacob hopes will grow to be as large as the SafetyBar for e-mail network of 1.2 million users. If the information aligns, then the Web site is automatically blocked for all users on the LAN. IT managers can configure SafetyBar for Internet Explorer to block sites they feel are a threat or that have been identified by the Cloudmark community.

The base application of SafetyBar for Internet Explorer is free; add-ons will be available in early 2006.

#### Knowing what you've got

Network visibility is also a key component for companies trying to get a handle on their compliance. Having a clear picture of IT assets is critical for decision-making and policy setting.

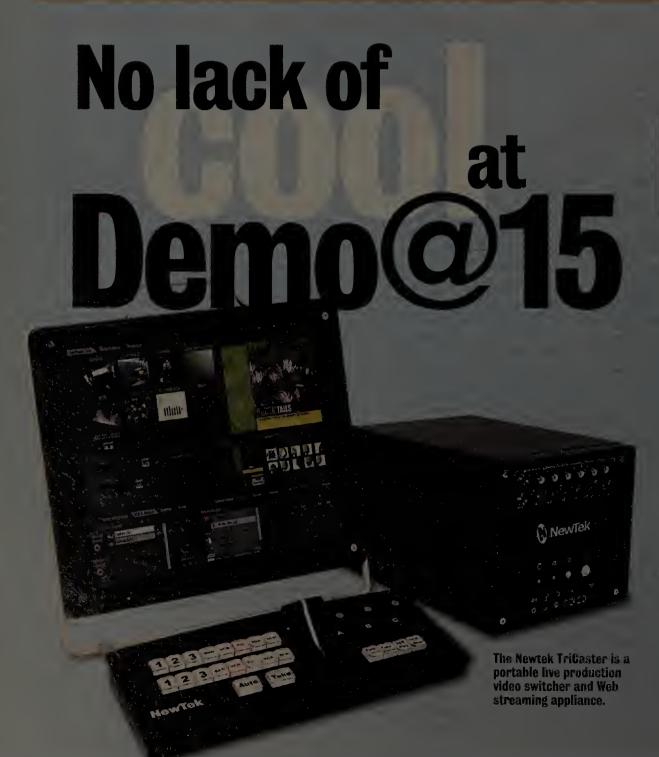
Calling its new tool a "virtual MRI for IT," Blazent is debuting its Blazent 3.0 application. The software gathers information about all devices on the network and how those resources are being used. It then matches that information with benchmarks set by the company for IT asset use. With this data, executives can perform a financial analysis on IT investments, ensure compliance with government and private sector mandates, and develop policies around IT resources.

A company can visually map all of its leased machines, including detailed information about leased PCs and servers, to assess purchase, renewal, penalty and maintenance costs.

The tool also can be used to expedite IT tasks by offering a help desk manager real-time details about the configuration of a user's PC.

Blazent 3.0, available in March, supports Tivoli, SMS and Remedy. Pricing starts at around \$30,000, based on the number of assets being collected and reported, the analytics modules the customer needs, and specifics of integrating with the customer's other systems.

Gittlen is a freelance technology editor in Northboro, Mass. She can be reached at sgittlen@charter.net



#### ■ BY KEITH SHAW

emo is one of the few shows where you look at some of the products and say, "Wow, I can't wait to try that." Over the past 15 years the show has produced several "gotta-have" devices and software, and this year is no different. Here's a quick peek at what we'll yearn for during 2005:

#### **Personal broadcasting production**

When corporate communications officials want to broadcast a live message from the CEO to the company they usually have to hire a Webcasting company or full production company to produce such an event. Newtek says it wants to change that with its TriCaster box, which debuts at the Demo show. The TriCaster is a portable live production video switcher and Web streaming appliance. For \$5,000, users will be able to produce a live event, including switching multiple cameras, graphics and pre-recorded material (known as B-roil foctage), and stream the output to the Web in real time.

With comparable systems costing between \$15,000 and \$20,000 (and higher), Newtek says it hopes to create a new market for video communications for companies that couldn't previously afford it. The product is designed to appeal to non-video professionals who still have video needs. The system includes pre-built title screens, graphics and other professional broadcasting features. Officials from Newtek say the system is so easy to use that one person can take the place of a whole control studio. The company says it hopes to have systems shipping as soon as possible, and by April at the latest.

#### Browsing at the speed of thought

The Web browser has been around for more than 10 years, yet the process of browsing hasn't changed that much Type in a search term or click a link, the browser goes and finds the information and presents it on another page. Repeat until you find the page or information that you're looking for.

Browster has a better idea — instead of clicking to move ahead, why not mouse over the link and be presented with a pop-up window that gives you a visual representation of the Web page? If you don't like the result, just move your mouse and it disappears. If you do like it, click on a non-link area of the window and the page moves into your original.

See Demo, page 48

## You have a printing emergency. Your printer has a printing error. Again.

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#### Demo

continued from page 46

browser area. Browster is a plug-in for Internet Explorer (free download for end users) that does just that.

Browster uses an end user's CPU and bandwidth for a concept it calls "pre-fetching." When a Web page comes up, the Browster plug-in goes to work and gathers all the page information for all the links in advance. When the user moves the mouse over the link, the information appears instantly in the Browster window. Users can determine the length of time the mouse needs to stay over the link before the Browster window pops up to avoid windows popping up all over the place.

The system works with any link, not just search engine results. For example, with Web-based e-mail you can mouse over the subject line in the e-mail and see the contents of the e-mail (almost like a preview pane in Outlook). The Browster makers also talk about having the system recognize daily browsing patterns — for example, if you go to Yahoo every morning and click on certain news links, the system will eventually recognize these patterns and pre-fetch the "favorites" quicker than other links.

#### The perfect pair of pants

Some people enjoy shopping for clothes and trying on new outfits, but for the rest of us it's a pain just to find something that fits well (most jeans come with leg lengths far too long for me). The Intellifit system is appealing because it can conduct a full-body scan, figure out your clothes size, and offer recommendations on styles that would fit better.

Body-scanning technology isn't new, but many systems required people to either undress, or even put on a Lycra bodysuit to complete the laser scan. The Intellifit system is a walk-in booth with a scanner that revolves around a person in about 10 seconds. The company says it scans with low-power radio waves with about 1/350th the power of a cell phone to collect more than 200,000 data points. Most important, the scan occurs without the shopper having to undress or wear a bodysuit.

The system has been around for about 10 months, but it debuts this week at Demo with a "search engine" functionality that lets users type in the type of clothing they want to buy (swimsuit, jeans or tuxedo). After the scan the system offers a page of results that helps users find what they are looking for. The current system only offers sizing measurements and recommendations within the specific store where the Intellifit booth is located.

At the show, Intellifit offers attendees the chance to get a perfect pair of jeans from Levi's for stepping into the booth and getting a body scan. Maybe now I can get jeans with the perfect leg length.

#### **Using networking to network**

One big reason why people attend conferences is to network with colleagues. But meeting someone in a packed room usually involves walking around, introducing yourself and figuring out if he is worth talking with. Technology to the rescue!

Jainbo Networks is launching client software that uses Wi-Fi to help make the introductions for you, and find people with similar interests. Jambo users fill out infor-

Jambo Networks uses Wi-Fi to help you find people who you want to talk to.



The Intellifit system can scan body measurements easier.

mation about themselves on the Web site, which the client remembers. Through an algorithm process, Jambo then broadcasts a unique number through the Wi-Fi device (Windows 2000 or XP laptop, Pocket PC or smart phone, Macintosh in beta). When the client finds a person with a similar number (no actual profile data is broadcast), it alerts the user that someone with similar interests is nearby. The user then can send a message to the other person and the two can meet.

Jambo is targeting three markets initially: conferences, universities (to help students with similar interests find each other, or alumni association gatherings) and Wi-Fi hot spots. Imagine an online dating service or other community Web site that can alert you when another member of the site is sitting in the same Starbucks as you.

The system works with computers that are in infrastructure mode (connected to an access point), or in ad hoc mode, so you don't have to be connected to the Internet to connect with other people within the same area.

#### **Blogging to the masses**

Bubbler might be the coolest name for a new product debuting at Demo Five Across' Bubbler (still a code name, though) is a client application that lets users create and update Weblog information in real time. Think of it as a combination of an instant-messaging client that updates a blog as soon as the person hits the Enter key. The client application allows for instant text update, as well as uploads of photos, files, RSS feeds and even Wikis. The client offers a number of templates to let users get a blog up and running in no time.

Another cool feature is the ability to easily add other "authors" or

group members to a person's blog,justthrough an invite process that gives them the same client to download. It allows groups of people to contribute to the blog quicker and easier than with current blogging software. Furthermore, users can create private blogs (with passwords), so the result truly becomes more of a collaboration environment (with shared photos, files and text entries) than a blog.

Five Across plans on hosting the blogs for a minimal fee (about \$5 per month for 250M bytes of space and about 1G byte of bandwidth for the basic service). The free beta program starts today with the launch at Demo.

#### **Bringing touch to gaming**

Novint plans to introduce the world to haptics, the science of applying tactile sensation to human interaction with computers. The technology has been around for nearly 10 years, but it was limited to high-end applications such as medical training. At Demo, the company plans to launch a mass-market device, the Novint Falcon, for less than \$100 that brings haptics technology to the world of computer gaming.

The Falcon device is like a joystick, but provides three-dimensional feedback to the user, making games feel more realistic. The company developed a golf game and basketball game that make it feel like you're actually swinging a golf club or shooting a ball. The company says it hopes to attract game developers to the device, but it also says that online gaming applications will benefit (imagine being able to unsheathe a virtual sword in a game, or being able to look at and touch an object that you are buying on a shopping site). Novint says it's aiming for a first-quarter 2006 release of the device and a few games, with more games planned for later in 2006.

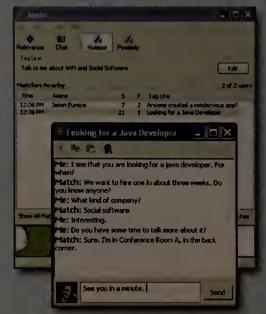
#### Making the TV the center of the universe

The founders of Mediabolic want to do for the TV what the Palm Pilot did for handheld devices. When the Palm launched at Demo, it provided a device and a platform for developers to their own "killer applications."

In the digital living room arena, Mediabolic plans to launch a networked media player (which it hopes to sell to OEMs) that combines the ability to access premium content from the Internet (such as entertainment from MovieLink), personal content stored on a user's PC (such as photos, videos and music) with Internet-based content from sources such as RSS feeds and other Web applications. Mediabolic uses an open integrated environment to let end users find applications that let them have their own "killer application" for the !iving room. The "box in the middle" of the equation takes the native environment the application was built for (PC monitor, for example), and converts it so it can be seen and enjoyed on a larger TV screen. According to Mediaboli officials, this isn't screen scraping or other similar technology like Web TV, but rather a system that integrates all sorts of applications and presents it on a TV.

The networked player would be the first step.

Mediabolic says eventually the technology will be integrated directly into a television set itself.





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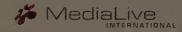
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#### **MCI** speeds response time to address net failures

**BY CAROLYN DUFFY MARSAN** 

In a move designed to decrease the network downtime experienced by its corporate customers, MCl says it has reduced the time it takes to respond to network failures by an average of 10 minutes per incident.

This new capability is available at no extra cost to customers of MCl's managed network services, which include 2,100 corporations worldwide.

MCI's Rapid Fault Isolation has automated the process it uses to identify where network failures occur: whether on the customer's premises, on the local exchange carrier's network or on MCI's WAN.

"We're providing proactive and immediate identification of any anomalies within networks," says John Shultz, senior director of managed network services at MCl. "We can isolate and pinpoint a fault the moment it occurs. We can provide automated real-time updates by voice, pager or e-mail on the status of the network."

MCl's announcement of this capability "is something special," says Sean Hackett, an analyst at The Yankee Group's telecommunications strategies group. "MCI is being pretty aggressive at alleviating enterprise customers' fears about managed services."

MCl has developed custom software that automatically runs tests to isolate network faults, and these tests now run in parallel rather than one at a time. With this new code, MCl says it can speed up its response to network faults by 8 to 11 minutes.

MCl also has developed an automated process for sending information via e-mail, pager or phone to its customers telling the status of network failures and the steps MCl is taking to fix them.

"The ability to restore networks is even more important for mission-critical applications such as IP telephony, e-business and e-commerce," Shultz says.

MCl's Rapid Fault Isolation works with any MCl service including IP, frame relay, ATM and Multi-protocol Label Switching.

MCl's competitors question whether Rapid Fault Isolation is that novel. Infonet says it has been proactively managing every element of its global managed network services since June 2002. Infonet says its global meantime to repair for all tickets for December 2004 was 1.78 hours.



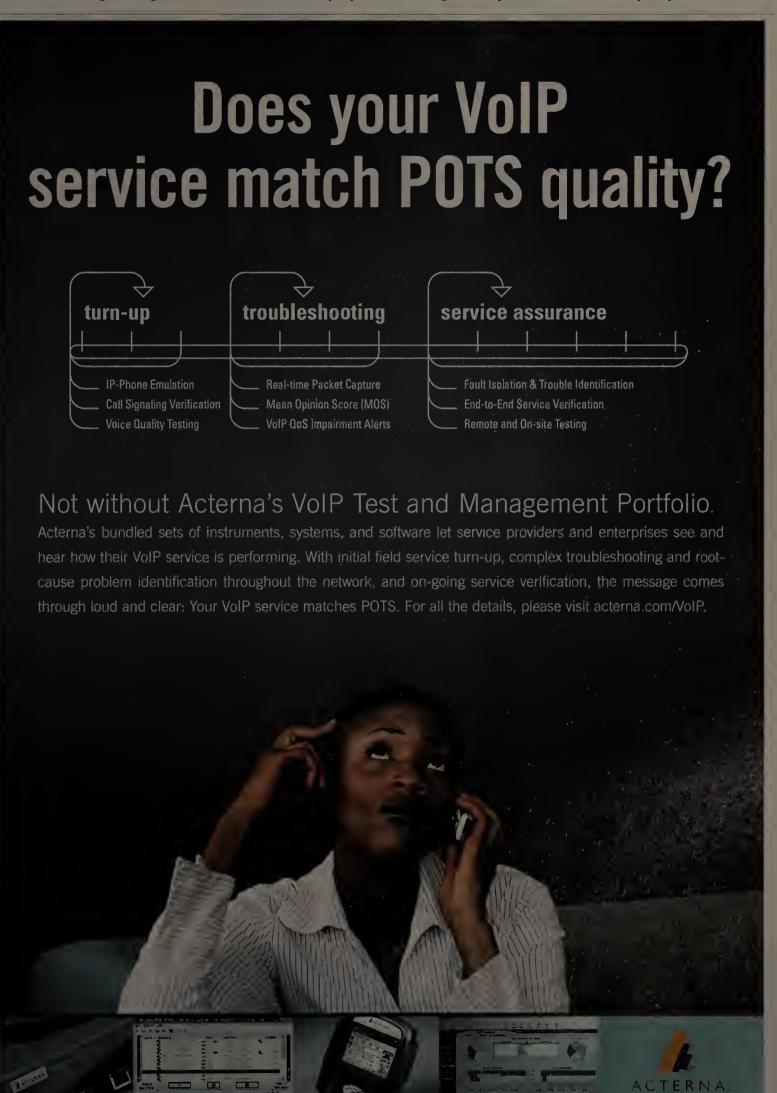
"We have been electronically notifying clients of faults-e-mail, SMS, pager and fax are also options - and automatically opening tickets against those faults since [2002]," says Bob DaGiau, vice president of enterprise management services for Infonet.

While ISPs might disagree about the

specifics, there's no doubt that reducing network downtime results in bottom-line savings for corporate network managers, industry analysts say.

A study by Alinean, an expert in ROI analysis, found that 1 minute of downtime cost a company \$700 on average. MCl says it is saves its customers at least \$7,000 for each network failure by reducing its restoration process by 10 minutes.

"Every site experiences an anomaly at least once a year," Shultz says. "With this system, we can isolate those problems and fix them much more quickly."



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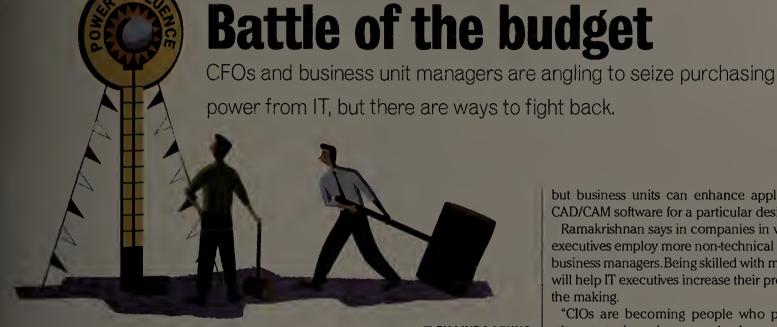
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A five-part series on how to

turn challenges into opportunities.





BY LINDA LEUNG Editor's note: This is the first installment of a five-part series on the threats facing IT

There is a group of individuals who are starting to gain significant influence over your future at your company, and it's not your

direct bosses. CFOs might wish to closely control technology decisions, and CEOs have handed profit and loss responsibility to business division managers who look to IT as an area to reduce spending and grow the business. But there are ways for IT leaders in these positions to regain the trust and support of their C-level and business unit colleagues.

executives and how to mitigate them.

"Business unit managers can make or break an IT exec's career," says Charles Spinosa, group director of New York IT consulting firm

Vision. "CEOs increasingly see business units as where they can get the competitive advantage that they're not getting, by and large, from IT. Business managers have become more savvy about technology and often recommend purchases."

Umesh Ramakrishnan, vice chairman at executive search firm Christian & Timbers, agrees, and adds that some IT professionals have lost some control of IT to business units over the past four years. "Profit and loss responsibility sat with business unit heads, and then the [Internet] bubble burst. Business managers went to CEOs and said, 'Don't hold it my responsibility for going over budget; the CIO lost control and put in ERP software and multiple server farms. From now on, I will tell you what we need.'The CIO is having to find ways to keep the CIO office intact," Ramakrishnan says.

Establishing a good working relationship with business units is key, particularly if they are free to run their own IT operations day-to-day and you want to retain control of purchases to prevent unnecessary duplication and expense.

Paul Lanham is senior vice president and CTO at Jones Apparel Group, which owns brands including Nine West, Jones New York and Easy Spirit. Each business unit runs its own IT operations and sets its IT budget. Each unit has a vice president of MIS who reports to the corporate vice president of MIS, who in turn reports to Lanham.

"The reason for the central team is compliance," Lanham says. "We provide leadership on pieces of the corporate strategy, and we help the businesses maximize spend and reduce cost by not having three or five different maintenance agreements."The company sets standards for hardware and software so it doesn't end up with different ERP or e-mail systems, but business units can enhance applications that are specific to their work, such as

Ramakrishnan says in companies in which business units play a large role in IT, now IT executives employ more non-technical skills in their jobs as they deal with many different business managers. Being skilled with managing relationships with different business units will help IT executives increase their profile among C-level types who might see a COO in

CAD/CAM software for a particular design function.

"CIOs are becoming people who play a role in politics. They have multiple constituents to keep happy, and a large proportion of their time is dealing with people issues and egos," Ramakrishnan says.

One CIO described his role to Vision's Spinosa as being a dealmaker who manages a balancing act. Some IT executives have to be adept at dealing with disagreements between the CEO and business managers, Spinosa says. For example, at worldwide consumer goods manufactures, CEOs are likely to want to Webify everything to make it easier and less expensive for customers to buy online. But country managers want to localize products and force consumers to buy from certain channels. "IT is the place where this conflict is fought out. In these cases, the CIO does the CEO's bidding because [to

Webify] is the CEO's decision," Spinosa

When Jan Sibley, vice president at Chicago systems integrator Thought-Works, served as ClO in the finance sector for 11 years, she would constantly face challenges of dealing with "rogue business units that do stuff their own way." She recommends addressing the problem in a number of ways including "leading with fear factor and playing the scale card." These efforts would educate business units and CEOs on the security and cost benefits of IT retaining control of the infrastructure, while giving busi-

#### **CHALLENGE**

The influence business unit managers have over IT is increasing, with some overseeing IT budgets and strategies for their departments.

#### RESPONSE

By working to win back power and influence, IT executives can evolve their roles to becoming corporate IT strategists. Hone your negotiation and political skills to put yourself in a good position for promotion.

ness units more flexibility in the selection of business applications.

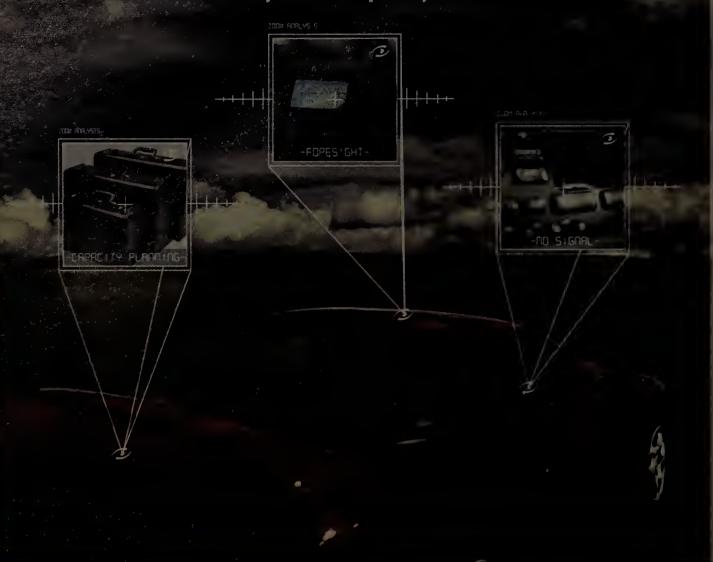
You've got to have a clear value proposition that size matters and that scale reduces business unit costs. If a CIO can't prove that statement, they're not in the right line of work," says Sibley, who, up until a year ago, served as CIO at Washington Mutual Home

Being transparent with the cost of managing IT centrally vs. individual business units also would help your cause, Sibley says. "Benchmark and measure everything, and show these figures to the business unit. Make sure you're open and willing to compare cost against external factors," she says. She recommends establishing a baseline, measuring each year and ensuring that infrastructure cost is reduced. "When I was CIO, I made sure we reduced cost by 6% year over year," she says.

Providing cost transparency also will keep you friends with the CFO. "CFOs are driven by numbers. They love metrics and comparisons," Sibley says. As CIO, she would always ask the CFO to install one of his staff inside the IT department to manage IT finances. "This person would report to the CFO with a dotted line to me. It's a great way for the CFO to build confidence in you," she adds.

Jones Apparel's Lanham concurs: "You've got to earn trust." That means understanding what the business managers are trying to achieve and finding ways to help them reach those goals." For Lanham, he ensures that his staff, which is embedded with the business units, has experience specific to that business. "You've got to be able to talk credibly," he says.

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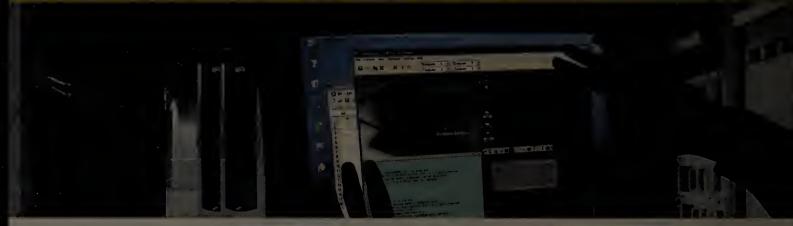
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#### **IT Careers in Healthcare**

hile investment in information V technology is picking up across most sectors, none is experiencing growth at the spiraling rate of healthcare IT. With a combination of federal initiatives, demands for cost efficiency and ever-increasing patient loads with increasingly complex illnesses, the healthcare industry is ripe for technology solutions that range from direct patient care to administering healthcare plans and providing accessibility across the spectrum of healthcare providers.

More than 19,000 participants are expected this week at the annual Health Information Management Systems Society meeting. Keynote speakers include Sun's Scott McNealy, Cisco's John Chambers and David Brailer, the senior-most government official on eHealth. H. Stephen Lieber president/CEO of HIMSS, says topics will include a national health information infrastructure and interoperability among providers.

Underlying the discussion is the more than \$40 billion in IT investment the industry will make this year.

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SENIOR SOFTWARE ENGINEER to provide on-site consultancy to analyze, design, develop and implement complex enterprise wide applications with domain knowledge of chemical engineering processes using object oriented technologies with Java, J2EE, Coolgen, C++, Interwoven, IBM Visual Age, Rational Rose, UML, SNA Server, PVCS, ERWin, CICS, Oracle, AS400 and UNIX Top Link in Windows and UNIX environments. Require: B.S. in Engineering/Computer Science or closely related field with five years experience in the job offered or any expenence providing skills in described duties. 40% travel to client sites within the United States required. Competitive salary and benefits, 40 hours/week, 8 am to 5 pm, M-F. Apply with resume to: President, ObjectNet Technologies, Inc., 1117 Perimeter Center West, Suite E-104, Atlanta, GA 30338.

ons. Must have Bach. ir comp. Sci. or related field, & 2 windows 2000 client-servel environ. & incl. exper. with Linux server platforms, MS Exchange Mail server & Network Security Proficiency in Windows 2003 server, Novell Netware client-server & ASP/VB.Net/SQL server. erver & ASP/VE.NeuSQL Serv r 2000 programming. Sen esume to HR, Adaptiv nstruments Corp., 577 Mai t., Hudson, MA 01749.



According to Sheldon Dorenfest, CEO of Dorenfest Group and director of the Dorenfest Institute at HIMSS, key to this year's opportunities are transition of enterprise software to the healthcare field and development of new software applications that focus on patient safety, assurance of accuracy and safety. Use of PACS - Picture Archiving Computer Systems will continue to grow as healthcare facilities make digitized images available on a network. Medication management systems also will be one of the key areas for investment, to automate and provide instant audit of the systems.

IT Co in Fairfield, NJ has multi ple openings in various locations nationwide for IT Professionals w/ foll skill sets in Windows

Job Code JJ05 Code JJ05)

- Data Warehousing/BI - Informatica, Business objects, Cognos, PL/SQL (Job Code WJ05)

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- QA - Winrunner, Loadrunner, load testing (Job Code QJ05)

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Req Bach degree or foreign

(Job Code BJ05)

Req Bach degree or foreign equiv & 1-3 yrs exp or training in job duties. Will accept any combination of edu, training &/or exp that meets min req'mnts. Must refer to Job Code when applying. Send resume to: Insyst, Inc., 271 Route 46 West, Suite A201, Fairfield, NJ 07004. Fax: 973-808-0237, Email: jobs@insystus.com.

Database Administrator: Proactively identifies and resolves potential database problems. Responsible for directing programmers & analysts, testing & correcting errors, & redefining changes to the database. Specifies user access level, calculating optimum values for the database parameters & monitoring database performance, as well as designing & modifying the database in order to increase performance using DB2, SQL Server, & Oracle Database Management Systems. Must have 8 yrs exp of which 6 yrs must be with Database Management Systems; 4 yrs w/DB2 on AIX or Linus; 4 yrs w/Dracle on Windows; and 2 w/Microsoft SQL/ Server. This experience can be gained concurrently. Submit resume to Leslie Smith, 5151 McCrimmon Parkway, Suite 216, Morrisville, NC 27560.

Tampa, FL (40 hrs/week; 8 am - 5 pm; \$68,879.28 per yr.). Perform co-existence testing to determine impacts to/from existing systems on the same platform using Cibar on the same platform using Ciber and TAP (Industry Standard Record Formats for wireless phones); ensure integrity and performance of systems; problen detection, resolution, and prevention to minimize impacts to clients Req's BSCS/CE & 1 yr of prof exp. in job offered or in syst with application design and development in C++ and Visua Basic, Unit Testing/ Integration Testing, Ciber and TAP, ASP HTML, XML, Internet Information Server, ISAPI, and Window operating system (experience mabe gained concurrently). Senresume to Workforce Program POB ahassee, FL 32302-0869 Reference job order# FL2600149.

#### **E-Business Architect**

Responsible for full life-cycle implementation of WAN global IT for major international insurance company. MS & min 4 yrs exp. Position in DE. Fax resume to:

> P. Roke (215) 761-5482.

Healthcare facilities, including more than 5,000 hospitals, will offer many opportunities. However there also is continued consolidation and growth in companies providing the back-end operation to healthcare - billing, payments, and coordination of benefits. Among the goals is that patients will receive approval for specific treatments and payments real-time versus waiting for approval.

"The dollar investment in healthcare IT is growing by about 9% a year for the next couple of years," Dorenfest

says. "Many IT professionals are drawn to this industry because of that growth, but also because they feel they can make a contribution to something of a higher good." Dorenfest projects that the IT job openings will be involved in creating, but also modifying and maintaining systems architectures. "I think the most job growth will be in the extensive implementation of new systems,"

For more information about IT Careers advertising, please call: 800.762.2977

Produced by Carole R. Hedden

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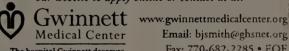
EmSTAT or CLINIVISION application exp. and 4 years exp. in healthcare related to Information Systems. Bachelor's Degree in a Clinical field preferred.

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Software Applications Engineer, assigned as IT Consultant, to design, develop and modify software for web and general comware for web and general computer applications, including control software to interface directly with hardware, utilizing C++, Visual Basic, and Net. Multiple Openings Available. Requires Bachelors or equivalent-level degree in Computer Science, Engineering, Mathematics or closely related field, and three years experience using C++ and Visual Basic to develop software applications, including control software to interface directly with hardware. Send resume to: Rick Heinlein, Ferguson Consulting, Inc., 12444 Powerscourt Drive, Ste. 235, St. Louis, MO 63131. Equal Opportunity Employer. Computer Support Specialist-Multimedia. Develop multimedia using Flash 5; design graphic using Adobe Photoshop; deve op online and stand-alone train ing delivery systems; and integrate and test courseware and delivery systems Must have Bachelor's in Comp. Sci. Comp. Info. Systems or related six months exp. in job offered or Programmer, Web Support or related, including six months exp. with Macromedia Flash SQL and Adobe Photoshop Must have knowledge of Visua Basic, Java and ASP. Sen resume to Patient Education Institute, inc., Attn: Dr. Moe Ajam, 2101 ACT Circle, Suite 201, Iowa City, IA 52245.

Operations Engineer wanted to provide tech. support & services colutions for Short Messaging Service Center products or TDMA, CDMA & GSM; support over-the-air activation & provisioning products; on-site instal & configure SMSC products or HP Unix Servers, configure Logical Volume Manager (LVM) install, upgrade & provide tech support for Oracle relationa database; configure & support TCP/IP network & SNMP; support prepaid server agent & tother supplementary products such as Invoke SMS server 8 IVR system; develop Bourne Shell & Kom Shell scripts for automate mgmt. task; collaborate w/ project teams on project deployment; travel to customer's sites to deliver project w/in time-line; perform hardware installation for Open Messaging Gateway (OMG) & its supporting environ., Incl. fiber channe switch & Solid State Disk; instal & configure OMG software & perform customer acceptance test; participate in 24x7 on-cal support & resolve tech. problems for customers. Must have Bach. deg. in Comp. Sci., Elect Eng. or related field, & 1 yr exper, in HP-UX system admin & Oracle DBA incl. exper. in SNMP, Kom Shell & fiber channel switches, & 1 year exper configuring X.25 connections Must be available for frequent travel (up to 70%) & to provide 24x7 on-call support. 40/hr/wk Salary \$65,000/yr. Send 2 resumes to Case#200300526 Division of Career Services Labor Certification Unit , 15 Staniford St., 1st Fl., Boston, MA

Street) have multiple openings for Jr & Sr positions at its office in Quincy, MA: Software Developer & UNIX System Consultant. For Software Developer work on the on-going design, development & enhancement of our Portal Home Page & Single Sign-on authentication functionality. Min reqs: MS or equvt in CS, CA, Engg or related field +2 to 4 yrs exp in related Software Engr position w/design & devpt of business application using Java in IT industry. Exp must incid 2 yrs w/analysis, design, develpt & testing software systems using JSP, Servlets, Weblogic application server, EJB & RDBMS; & 1 yr w/ JMS, Oracle database server/technologies, & using Rational Rose to design software model or to develop Object Oriented (OO) models. For UNIX System Consultant - Responsible for our UNIX infrastructure. Min reqs: BS or equut in CS, Math, Engg or related field +2 to 5 yrs exp in a related software position devlp system, network & application programming in IT industry. Exp must incid 2 to 5 yrs w/multi-platform UNIX environment comprised of Solaris, AIX, tru64 & HP-UX; & 6 mths w/NFS, NIS, Automounter, DNS, RAID, performance management, security, shell scripting, Solstice Disk Suite & Veritas Netbackup. Send resume to HR - Job #MSHRQM, CitiStreet, One Heritage Drive, North Culincy, MA 02171. No phone calls. EOE.

Seeking qualified applicants for the following positions in Miami, FL Senior Process Improvement Systems Analyst. Design, develop and maintain databases and web-based reporting systems for operations process improvement functions. Requirements: Bachelor's degree\* or equivalent in computer science, MIS or related field plus 5 years of experience in data collection, statistics and data analysis. Experience with either SQL, Oracle or MS Access also required. Must be fluent in oral and written Spanish. 25% international travel required. \*Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Anre Garrett, Federal Express Corporation, 701 Waterford Way, Suite 1000, Miami, FL 33126. EOE MF/D/V.

DISTRIBUTED SYSTEMS ENGINEER to provide on-site consultancy for design, analysis and administration of network operating system software such as Microsoft NT and Novell; provide design, analysis and implementation of distributed systems using Java and J2EE, and maintenance of distributed systems for hardware and software requiring use of SAP connectors, relational database management, distributed systems, Java, J2EE, Oracle and DBZ. Require: Master's degree in Computer Science. Must demonstrate ability to perform stated duties upon interview. Coursework must include distributed systems computing, database management and Java programming. 40% travel to client sites within the United States required. Competitive salary and benefits, 40-hours/week. Apply with resume to: Human Resource Manager, 4C Solutions, Inc., 1201 7th Street, East Moline, IL 61244.

PROGRAMMER ANALYSTS req'd for Fargo, ND office. Design & Develop software applications using C, C++, VB, Delphi. ASP, XML, UML, Coolgen, Interwoven, Oracle, PL/SQL, Developer 2000 & Designer 2000; Bachelors or Equiv. req'd in Computers, Engineering, Math or related field of study + 2 yrs of related exp. 40 hrs/wk. Must have legal authority to work permanently in the U.S. Send resume to HR Manager, Allied Business Consulting, Inc., 8700 W. Bryn Mawr, Suite 800 South, Chicago, IL 60631.

S/W Engineers to analyze, de sign business appls for SAI R/3, ABAP, Workflow, C, C++ Java, VB, Oracle, SQL, etc under Windows, UNIX OS; analyze business processes to determine reqs & generate reports; prepare documents, flocharts and programming specsoreate appl prototypes for clien approval and rapid appl development; train users in business appl usage. Require: MS or for eign equiv. in CS/Engg. (ambranch)/Math & 1 yr exp in IT High salary. F/T position. Trave Required. Resume to HR Smartsoft International, Inc. 3965 Johns Creek Court Suwanee, GA 30024.

Test Coordinator & Issue Coordinator. Responsibilities include issues/risks management, and change and control process management of project; test planning and preparation; test coordination; system analysis; and assisting in project plan review and update. Must have Bachelor's in Computer Science, MIS or related, 6 mos. exp. in job offered or Software Tester or related, and knowledge of Clear Quest, software development life cycle, and testing methodologies. Send resume to Praxis Technology Group, Attn: Mark Loomis, 1500 NW 118th St., Des Moines, IA 50325.

Software Engineer needed w/exp in: Developer 2000, PL/SQL, Pro\*C, CORBA, SQL\*Plus, client server applic. using JAVA, VB, HTML, Oracle, & ASP on Unix. Exp/Degree: M.S. or Foreign Equiv. in Engg. or Comp. Scie, or Math + 1yr. exp in job offered. Will accept B.S. or Foreign Equiv. in Engg. or Comp. Scie, or Math & 5 yrs of progressive work exp. in lieu of M.S. & 1 yr. exp. Send resumes to: Netsource Comm., Inc., 10050 16th St, N., Ste #200, Saint Petersburg, FL 33716.

Seeking qualified applicants for the following positions in Collierville, TN: Senior Programmer Analyst. Formulate define functional requirements and documentation based or accepted user criteria. Requirements: Bachelor's degree or equivalent in computer science, MIS, applied mathematics, engineering or related field plus 5 years of experience in systems/applications development. Experience with J2EE CORBA and database development also required. "Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Kamlesh Dhaliwal, FedEx Corporate Services, 101 N Sepulveda Blvd., 3rd Floor, E Segundo, CA 90245. EOE M/F/D/V.

#### **Programmer Analyst**

Multiple positions available to analyze user requirements procedures, & problems to au tomate processing & improvexisting computer systems.

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Responses to:
Recruiter Job # CW2005
Summa Technologies, Inc.
US Steel Tower, 53rd Floor
600 Grant Street
Pittsburgh, PA 15219

Programmer Analyst w/Bach or Foreign Equiv. in Comp. Scie. or Engg. or Math & 2 yrs exp to analyze & document requirements using MS office tools, design applic. using MS Visio. Design database using Erwin tools. Develop Win & web applic. using ASP, ASP.NET, HTML, XML, C#, VIsual Basic, VB.NET, IIS, SQL Server, MS Access, Excel Macro, Power Builder & Sybase. Plan & track project using MS Project Plan (MPP). Mail res: eBusinesscorp Inc. 209 West Central Street, Suite 106, Natick, MA 01760.

Software Engg. w/Masters dgr. 6-m.- 1yr. exp. or 3 yrs for equivl. w/Bach. & 5 yrs. exp. to wk. in conj. w/hardware or Prog. Analyst, w/either 3yrs. exp or w/bach. dgr. & 2yrs. exp. using; z/OS, Solaris, DB2, Excel, JCL, TSO/ISPF, SAS, COBOL, PL/SQL, Java, HTML, JSP, Photoshop, Java Script, Unix, PERL, XML, XSLT, Oracle, SQL Loader, Informatica Power Center/Power Mart, Windows NT, Erwin tools, ReportNet, Cognos, SQL Server, Ab Initio, C,C++, J2EE, WebLogic, Crystal Report, Jboss, Struts, JSTL, Spplets. Send resume to: Global Soft Systems, Inc. 10000 W. 75th Street, Suite 200, Shawnee Mission, KS 66204.

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Gather requirements from bus ness users in order to develo various core business components in VB.NET, C# and .NET write test case and test script using automatic testing tools Must have Masters Degree i Computer Science or in a related field & 1 yrs. exp. or 1yrs exp. in a related position w/abil by to use: ADO.Net, .Net technoogy, C#, VB.Net, SQL Serve and OOAD. 40.0 hrs./wk 9:0 AM - 6:00 PM. Applicants sencover letter and resume to Cyber Korp, Inc., 400 West Lak Street, Suite 216, Roselle 160172-3572, Attn: HR MGR.

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Software Engineers, Programmer Analysts, Systems Analysts with NE based IT firm. Will need Bach +1 yr exp for jr level position and Master or Bach + 5 yrs exp for sr level positions. Skills req. C, C++ Java, HTML, MS-Access, SQL, CSS, Perl, MS QL Server, Oracle 8i, Sybase, DB2, Windows NT, UNIX, VC++, Visual Cafe, CBS, EJB, SOAP, CGI, RMI, Apache Web server, SAP, SAS, People Soft, SIEBEL, iPlanet and Struts. Apply with two copies of resume to H.R. Department, IQ Systems Inc., 11907 Arbor Street, Suite A, Omaha, NE - 68144.

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Seeking qualified applicants for the following positions in Memphis, TN: Senior Systems Programmer. Devise procedures to solve complex systems and applications problems. Requirements: Bachelor's degree or equivalent\* in computer science, MIS, mathematics, enginecing or related field plus 5 years of experience in systems programming. Experience with development of barcode symbology, sensor technology and scanning technology also required. \*Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Miley Ainsworth, FedEx Corporate Services, 2847 Business Park Drive, Bldg J, Memphis, TN 38118. EOE M/F/D/V.

Technical Support Specialist. 8a-5p, 40hrs/wk. Analyze project; review, test prgm for compatibility; troubleshoot; provide tech support, update in telecom billing & provisioning using knowl of systms dsgn, networks, computer architecture, graphics, switches, routers, Oracle 9i, C, C++, Java, HTML & OTA. Req: Bach or equiv foreign deg in Comp Sci/Applications/ Engg; Info Technology; Electrical, Electronics or related Engg. Resume: Megasys, Inc., 200 Lazy Shade Ct., Duluth, GA 30097.

Software Engineers needed. Seeking candidates w/ MS or equiv. & rel work exp. Part of the req. rel. exp. must include 1 yr working w/ Web-Logic Application Server & EJB. Duties include: Dev. web-based applications; Architect, design, & code to stated specs using detailed cases & J2EE. Travel & relocation may be required. Mail resume & refs to: Customer Care, Inc., 2278 Camino Ramon, San Ramon, CA 94583.

SOFTWARE ENGINEER to provide on-site consultancy to analyze, design, develop and implement complex enterprise wide applications using object oriented technologies with Java, IZEE, C++, WebSphere, ERWin, Oracle, AS400 in UNIX/Windows environments. Require: B.S. in Electrical/ Electronics Engineering/ Computer Science with five years experience. 40% travel to client sites within the United States required. Competitive salary and benefits, 40 hours/week, 8 am to 5 pm, M-F. Apply with resume to: President, ObjectNet Technologies, Inc., 1117 Perimeter. Center West, Suite E-104, Atlanta, GA 30338.

Principal Software Engineer was erve as chief architect for all Asset Management development projects. Will participate project planning, development and management. Will act at technical mentor for junior arsenior developers. Will develoand implement re-usable technical standards, processes arfunctions for the team. Will privide input representing IT Assimangement to all cross-orgariational development. Will perform design and development support and enhance processing and development including hardware data consolidation, software licening, purchasing, receiving, contract / warranties and reporting including database object designand creation, and SQL tunin Will oversee Asset databasimaintenance and reporting including database object designand creation, and SQL tunin Will architect, design, develotest, and implement Asset Management website. Will design develop, implement, and maintain Peregrine Connect.tlt sociarios supporting import of harware and software data gattered from IDD hardware are software scan technology. Whe responsible for Altiris in AssetCenter data import pilicing, implementation and deskto application composition for translation and import. Will serve a lead developer and build manager for Peregrine Get.Itt implementation. Requires Bachelor Science or equivalent in Compiter Science, Engineering, Mator Physics and five (5) years iob offered OR five (5) years in order development. Cancitated expertise in IT assimanagement using Peregrin Connect.itt; and demonstrated expertise performing data analysis and mapping usin Peregrine Connect.itt; and demonstrated expertise performing in the supplication unit, 19 Stanifor Station of Career Services, Laberous trated expertise performing data analysis and mapping usin Peregrine Connect.itt; and demonstrated expertise performing data analysis and mapping usin Peregrine Connect.itt; and demonstrated expertise performing data analysis a

Sr. Software Engineer. Job in Tallahassee, Florida. Multiple position openings. Responsible for development & maintenance of existing code base for multitier program environment using C++, Windows-based development environments and SQL based database servers. Duties include analysis of req's, development & preparation of technical documentation. Position requires installation and configuration of record and document management software and troubleshooting defects reported by QA and Support. Req's: Bachelor's degree (or foreign equivalent) in CS, EE or CE or related field plus 2 yrs experience in job offered position or 2 yrs exp in related occupation as a Software Engineer. 40 hr wk. 9am-5pm, \$52,000/yr. Send resume to Agency For Workforce Innovation, P.O. Box 10869, Tallahassee, FL 32302. RE JO FL #259-9978.

Programmer/Analysts Needed. Seeking qual. candidates possessing BS or equiv. and/or rel. work exp. Part of the req. rel. exp. must include 2yrs working w/ C, C++, & UNIX. Duties include: Plan, dev. & maintain computer prog. Code, test, & debug prog. Work with Oracle, PL/SQL, C, C++, UNIX, SAP R/3 ABAP/4 & SAP BW. Fwd. res. & ref. to Prudent Technologies Inc., 8080 Ward Parkway, Suite 320, Kansas City, MO 64114.

tor working under supervision of Director of UNIX Administration, will apply knowledge in system administration area with SUN Enterprise Servers, SUN Sparc Storage Array, Disk Sub System, Enterprise Tape Library (ETL), SUN Solaris, TCP/IP, Unix shell scripting, and Perl. Will utilize Apache Web Server, Veritas file system, RAID Manager, and SUN HA Cluster. Will install, configure, and troubleshoot Veritas Cluster Server for high availability in critical production environment. Will utilize and administer Veritas Volume Manager for file system creation, disk mirroring and RAID implementation using command line. Will install and configure performance monitoring tools: HP Open View and Network Node Manager configured for monitoring network equipment. Will configure SNMP agents on SUN servers and NNM to access HP Open View web access. Will create maps/submaps, SNMP event configuration, data collection and thresholds, and Network Polling configuration. Will apply knowledge of BMC patrol agent web access. Will perform configuration of SUN servers, OS and applications. Will perform configuration and performance/system resource monitoring, and evaluation of SUN servers, OS and applications. Will perform configuration and performance tuning of system resources per Client requirement. Requires Bachelor of Science or equivalent in Computer Science, Engineering, Mathematics, or Physics and three (3) years in job offered OR three (3) years in job offered OR three (3) years experience in UNIX administration. Candidate must also possess demonstrated expertise in security analysis using ESM in a UNIX server environment; demonstrated expertise in security analysis using ESM in a UNIX server environment; demonstrated expertise in security analysis using ESM in a UNIX server environment; demonstrated expertise in security analysis using ESM in a UNIX server environment; demonstrated expertise in Server 3.x for high availability; and demonstrated expertise in Security analysis using ESM in a UNIX server environment; demonstrated e

Seeking qualified applicants for position of Supervisor of Web-based Technology. Bachelor's Degree in Computer Science, Information Technology, or closely related discipline and experience with Web-based salary/benefits systems required. Submit resume to: SLW#2, The Waters Consulting Group, Inc., 2695 Villa Creek Drive, Suite 104, Dallas, TX 75234. EOE M/F/D/V.

#### Software Engineer Applications

Develop, test, install, maintain and improve telecommunications software and network systems. Must have Masters Degree in Engineering or in Telecommunications & 6 mos. exp. or 6mos.. exp. in a related position w/ability to use: VoIP Products, Empirix Protocol Test Suites, and Sage Voice Quality Test Suites, 40.0 hrs./wk 9:00 AM - 6:00 PM. Applicants send cover letter and resume to: Cyber Korp, Inc., 400 West Lake Street, Suite 216, Roselle IL 60172-3572, Attn: HR MGR

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#### **NetworkWorld**

#### Editorial Index

3Com	19
■ A	
Agilix	
Alcatel	
AT&T	33
■ B	
BellSouth	33
Blazent	46
Browster	46
■ C	
Centrify	
Cenzic	44
Cisco	1
Cloudmack	46
Computer Associates	27
■ E	
EMC	25
■ F	
Five Across	48
Fortiva	45
■ G	
Google	6
	Internet
Communications	3.6

■ H	
НР	12, 16
-1	
IBM	25 27
Ibrix	
Ignite Technologies	
Imprivata	
Intellifit	
IPLocks	
■ J	
Jambo Networks	48
<b>-</b> v	
■ K	
Koolspan	45
m L	
LiveVault	
Logitech	40
- 4	
MCI	6 51
Meru Networks	48
	16. 6. 8
WICTUSUIT	U, O
■ N	
Newtek	.46

NextHop Technologies	62
Novell	_14
Novint	48
■ P	
Ping Identity	_17
■ R	
Redback	33
■ S	
Sakar International	40
SBC	33
Seagate Technology	40
Skype Technologies	6.
StreamBase Systems	45
Sybari Software	8
Symantec	6
■ T	
Tanherg	19
Tumbleweed Communications	19
■ V	
Verizon	_6
■ W	
WebEx Communications	30
WilTel Communications	_33

#### Advertiser Index

Advertiser	Page #	URL
1 & 1 Internet Inc	34-35_	1AND1.com
Acterna	51.	acterna.com/VoIP
ADIC		www.adic.com/i2k
Adtran9	_www.adt	ran.com/info/winnetvanta1224
Barracuda Networks 21	www	barracudanetworks.com/RSA
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CDW Corp	24_	CDW.com
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Cyclades Corp	55	www.cyclades.com/nw
*EMC Corp	32	www.EMC.com/forumseries
*EMC.Corp	32	www.EMC.com/backup
Foundry Networks	67	www.foundrynet.com/sx
*Hewlett Packard	41	hp.com/go/ML110mag2
IBM Corp	15.	ibm.com/middleware/portals
Information Support Conce	epts Inc. 56	www.iscdfw.com
Medial ive International	50	www.interop.com
Network Instruments LLC	54 www.ne	etworkinstruments.com/analyze
Oracle Corp.	4_	oracle.com/datahub
pulver.com	16	www.VON.com
Quantum Corp	13.	QLTtape.com
Recurrent Technologies In	c 56	www.recurrent.com
RefurbUPS.com Inc.	56	RefurbUPS.com
RIM	26	www.blackberry.com/go/xkit
Rose Electronics		www.rose.com
SonicWALL	37ww	w.sonicwall.com/home/gav.asp
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*Westcon	18	www.westcon.com/mobility
Western Telematic Inc.	_56_	www.wti.com

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62 NetworkWorld 2/14/05 News www.nwfusion.com

#### LinuxWorld

continued from page 1

HP will discuss its BigTux project, which is aimed at supporting commercial Linux distributions such as Red Hat and SuSE on its 64-processor Integrity Superdome servers. Fujitsu also has talked about a Linux mainframe, which it expects to introduce this year.

Red Hat, Novell and Sun also are expected to unveil updates to their Linux desktop products. Talk is also expected to center around patents, licensing and intellectual property issues, and on Solaris 10, which Sun is releasing to the open source community in the next few months.

But analysts say the overall thrust of the event will be on how Linux can be used as a foundation for business processes from messaging to databases to enterprise applications.

"There are an awful lot of announcements or product discussions around things like messaging and identity management or high availability for application and database services," says Gary Hein, vice president and research director at Burton Group. "It's turning the corner from just being about the core of Linux, the core of the kernel, the core of the operating system. We're past that.

"The whole theme of the conference seems to be about moving up the stack toward solving a wider range of enterprise business problems, rather than just about being an inexpensive operating system," he says.

It's a reflection of how Linux is evolving. Instead of questioning the viability of Linux, IT shops are wondering where Linux can go next

Show organizer IDG World Expo, a sister company of *Network World*, says it expects 180 companies — 30 more than last year — to exhibit at the event, which is being held in Boston for the first time. About 7,000 people are expected to attend.

#### While linux server ... those servers also are handling more shipments indicate critical applications: Linux has become **Business-processing workloads Decision-support workloads** mainstream in the data center... 2003 **Linux server shipments** (in millions) 2% of spending was on Linux servers. 4% of spending was on Linux servers. 2008 6% of spending will be on Linux servers. 10% of spending will be on Linux servers. SOURCE: IDC'S SERVER WORKLDADS DEMAND-SIDE RESEARCH (BASED ON NEARLY 1,000 END-USER SURVEYS)

"We'll see more suits and less ponytails," predicts Dan Kusnetzky, a vice president at IDC. "More and more we're seeing the show as a way to display how Linux is a part of the enterprise and less and less as something that only a researcher or a scientist or an academician would be interested in."

Continental Airlines recently deployed Linux for the first time in a production environment. Using one of HP's Linux Reference Architectures, which includes Linux,MySQL database and JBoss application server, Continental moved a ticketing process that once was done manually onto HP blades and ProLiant servers.

The system went live in September. Continental uses HP ServiceGuard for Linux, a high-availability technology developed for its Unix servers, to ensure the system, which handles thousands of transactions per day, stays up and running.

"We've been developing a little bit and playing around [with Linux] here and there," says Michael McDonald, director of technology for Continental in Houston. "We considered Windows, and we considered Unix, and we considered Linux. And the easiest path to get from what we were on to where we wanted to go happened to be Linux."

McDonald, who will appear on stage with Martin Fink, vice president of Linux for HP, when he gives his keynote address Tuesday, says Continental is in the process of building other systems that will run on Linux.

Deutsche Bahn, the National German Railway system based in Frankfurt, also sees Linux as ready for important duty in the data center. It recently completed the migration of 55,000 Lotus Notes users to SuSE Linux running on an IBM eServer zSeries 990 mainframe. The railway already moved its train timetabling application from an HP Non-Stop platform to a cluster of Intel-based servers running Linux and has plans to eventually move more applications to Linux.

Detlef Exner, director of IT production for DB Systems, IT provider for Deutsche Bahn, says the decision to standardize on Linux stemmed from cost savings.

"If you compare apples to apples, compare operation costs, then Linux is cheaper than all other platforms," he says. "There really was no technical decision that had to be made."

Exner wouldn't be specific about how much the company expects to save, but says that with Linux he can reduce administrative time considerably. And by running critical applications on Linux, Deutsche Bahn can bring in the best, most cost-effective technology, rather than end up trapped by one vendor's proprietary offering.

"The mistake in the Unix environment was that HP-UX, Solaris and AlX are so different that you can't migrate very easily from one platform to the other," Exner says. "We at Deutsche Bahn want to be independent."

Exner says he gets the high service level and high availability he needs from Linux by running it on the mainframe. Showgoers will hear about technology to improve the reliability of Linux on other platforms.

Emic Networks will demon-

strate the latest version of its Application Clustering technology, designed to give open source applications such as MySQL the boost they need to handle critical business applications. Other start-ups will talk about virtualization and workload management.

Aurema, which has partnered with a number of major systems vendors to add workload management on other platforms, is bringing its technology to Linux. The company will announce that Novell is integrating Aurema ARMTech into its SuSE Linux Enterprise Server 8 and Enterprise Server 9 distributions.

"So a SuSE customer will be able to install and acquire Aurema's workload management technology and run it right along SuSE in a supported environment and get all the benefits they have historically gotten out of their Unix systems or mainframe systems," says Mark Wright, Aurema president and CEO.

Analysts say it's not surprising to see start-ups focus on virtualization, high availability and workload management when it comes to Linux, because the open source operating system is a good fit for virtualized environments.

"A virtualized environment has interesting attributes so that people can select hardware and operating system platforms that will do the work for the cheapest possible price, and that tends to urge people toward high volume and low-cost systems. It also has a tendency to lead people to think about open source software like Linux," IDC's Kusnetzky says.

## NextHop to play WLAN leapfrog

**■** BY JOHN COX

A little-known software vendor will take the first step this week toward helping equipment makers build what it calls the next generation of enterprise wireless LANs.

NextHop Technologies is unveiling software that OEMs can use to create their own WLAN switches and access points. The code is from NextHop's acquisition last fall of Legra Systems, once part of the pack of WLAN switch start-ups.

The vendor has made a successful, if largely hidden, business supporting a small army of Cisco competitors. Its GateD Layer 3 routing and Multi-protocol Label Switching software is used by 150 network equipment makers, including Enterasys, Nortel and Riverstone.

By year-end, the company plans to combine the Legra code with GateD so that new Ethernet switches will be able to handle both wireline and wireless traffic. Deploying a WLAN will no longer mean having to buy separate boxes: Increasingly, the existing Ethernet infrastructure will simply "do" WLANs.

Such integrated switches are now feasible, says Craig Mathias, principal with The Farpoint Group, a wireless consulting company. "But the whole switched area covers a broad range of functions. It's likely NextHop doesn't have everything yet," he says.

Far from it, insist WLAN rivals.

"The Legra software base was not competitive with the leaders in this space," says Dan Simone, CTO for Trapeze Networks. "It is not likely that NextHop has been able to dramatically change this situation in the short period of time they have had access to the software."

Today, enterprise WLANs are separate networks, an overlay to an existing wired infrastructure, Mathias says. "With true integration, the boundaries between the two become very fuzzy," he says. "For example, the management and security databases become integrated."

NextHop's software includes a version of the proposed Control and Provisioning of Wireless Access Points (CAPWAP) protocol. CAPWAP is intended to be an IETF standard, replacing the proprietary protocols vendors use for the control and management of WLAN access points by back-end switches.

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#### CONTRIBUTING









#### Deke

continued from page 1

I convinced Kassabian to let me shadow him for a day at the IP telephony confab in Lake Buena Vista and write a story about the event based on his observations. He was going to be at the show anyway to speak about the university's use of open source voice software such as Session Initiation Protocol (SIP) Exchange Router and Asterisk.

We met for breakfast Tuesday, with Kassabian grabbing a cup of coffee and leading me into a session titled "Firewalls in Converged Networks." SecureLogix CTO Mark Collier, whose company makes a VolP-aware firewall, laid out the case for using such specialized devices to get around issues with network address translation and to protect networks from threats such as VolP spam (dubbed "spit") and IP voice toll fraud that he guaranteed are on the way.

When it came time for the audience to quiz Collier, Kassabian was first in line, borrowing a quill pen from a fellow attendee and writing out a question on a note card about how organizations should deal with securing mobile users' access to VolP networks. Naturally, Collier recommended putting a VolP firewall between an IP PBX and end users. But he impressed Kassabian by also advising network administrators to make sure the softphone being used has encryption or strong authentication technology.

"He's with a company that promotes a very topological solution, and he could have said don't do VolP outside that protected topology. But he didn't," Kassabian said.

Kassabian is adamant about the need for companies to approach IP telephony as much more than glorified plain old telephone service. UPenn is using and experimenting with IP telephony on many fronts. Several hundred IP phones and softphones are in use; UPenn participates with other schools in a project called SIPedu that exploits SIP; and the school is accommodating students and others using Skype, Vonage and other IP services.

"We could buy SIP phones and enterprise voice servers, or buy IP Centrex from carriers, getting us a service that's very much like what we have today except that it runs on IP. That's a fine goal,"



The University of Pennsylvania's Deke Kassabian (left) talks IP phones with a Cisco rep at VoiceCon.

said the 43-year-old network strategist. "But there is another goal. Allow voice to be naturally integrated into Web applications, e-mail, IM and more. Let users run softphone applications on their desktops, laptops and PDAs. ...We need to treat voice as something that happens not only on fixed devices on fixed ports behind a firewall, reaching the world only through a [public switched telephone network] gateway."

Next we listened in on a keynote address from Craig Hinkley of Bank of America, which is rolling out VolP across 2,000 branches this year, plus at corporate sites and call centers in the months and years ahead. Hinkley, senior vice president of network architecture and strategic direction, said the massive project's challenges go well beyond technology. He elicited knowing nods and laughs from an audience of some 1,300 attendees when discussing the uniting of voice and data experts within the financial institution, joking about how members of each previously separate group slowly stepped away from each other during one early meeting on convergence.

After Hinkley concluded, Kassabian told me that UPenn integrated its voice and data teams more than four years ago and confirmed that doing so is no easy job. "We slowly but surely have come together....We have no separate voice operations group now, for example," he said.

We went our separate ways midday and reunited on the show floor at 4:15 p.m., at which time we searched for answers to Kassabian's most-pressing IP telephony questions.

Suddenly, the trade show floor

seemed to revolve around Pennsylvania, as those manning vendor booths eyeballed Kassabian's show badge and started making their pitches to him. Brian Allain, president of VolP security and management device maker Ranch Networks, quickly mentioned that he is a UPenn alum. Others brought up the Super Bowl runner-up Philadelphia Eagles and practically begging for business cards. (Kassabian declined, saying "l don't believe in them" and left it at that.) We informed vendor representatives upfront about the story I was reporting, sending some scurrying for their managers or public relations people and causing others to insist on not being quoted about the very products whose praises they sang to all comers.

Kassabian was impressed by the variety of IP phones on display, from new Cisco models with color screens (Kassabian has a Cisco 7960 with a monotone screen on his desktop) to those from Grandstream Networks, some of whose devices feature oversized numbers covered in clear plastic bubbles and prices that a pressshy booth occupant said are up to five times lower than those of bigger-name players.

Kassabian said companies have made significant progress in building applications that enable end users to manage the elements of presence, such as by setting rules for which incoming calls find a cell phone or get dumped into voice mail.

"These phones shouldn't be about making you available to everyone, but should be about 'how' you make yourself available," he said.

Kassabian complimented com-

panies whose systems support a mix of legacy analog and digital phones, as well as IP handsets. 'That's a good place to be," he told a rep from Teltronics, who said the company supports H.323 and is moving toward SIP.

"Older phones will be with us for a long time. I get worried about supplying an upgraded one-size-fits-all service, that it's not fair," Kassabian said, explaining that he wants to be able to offer services ranging from basic to premium and charge back to departments accordingly.

Show organizers plied attendees with munchies and beverages in the exhibit hall, which housed just more than 100 vendor booths. Kassabian ordered a red wine and said, "C'mon, let's have some fun with the Black-Berry guys."

Kassabian described himself as a fan of Research in Motion's (RIM) BlackBerry user interface. He said he is pleased that Black-Berries work much better with popular corporate messaging systems such as Lotus Domino/ Notes and Microsoft Exchange than they do with the mix of Unix, Internet Message Access Protocol and SMTP systems that UPenn and many other schools find more affordable. So he asked an eager RIM rep about whether any development might be underway to meet the needs of UPenn and others. Unable to assure Kassabian that help was on the way, the rep pointed to the product's Novell GroupWise support and shifted into a pitch about a new Wi-Fi-enabled BlackBerry.

Kassabian relentlessly asked vendors about their target customers and biggest installations. "Some of the products do some cool things on a small scale but might not be able to on a large scale," he said, noting that UPenn provides data, voice and video services to a community of between 35,000 and 40,000, "depending on how you count."

Many vendors said they were targeting small sites, although others claimed installations in the tens of thousands. When pressed, few could name names, sometimes referring us to their Web sites. Inter-Tel, which impressed Kassabian with what he called a well-thought-out desktop system for small and midsize sites, cited Chuck E. Cheese's as a big installation. Another vendor said it is supplying the New York City school system.

We wrapped up the day at Cisco's booth, where Kassabian examined the company's latest IP phones and chatted with a well-versed booth worker who highlighted the growing pool of XML-based applications that work on Cisco phones. Kassabian told the Cisco rep that he respects the vendor's efforts to get out in front of standards to meet immediate customer needs and its participation in standards groups, but expressed frustration that Cisco tends to delay support for standards such as Virtual Router Redundancy Protocol and SIP. "You guys need to make sure the best features from your pre-standard technologies make it into the standards," he said.

While Kassabian said he felt a wee bit guilty being on the outskirts of the Magic Kingdom while his wife and three boys were at home, he said, "we're not really a Disney kind of family." So ended our ride through VoiceCon.■

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#### BackSpin Mark Gibbs



#### **More selfishness**

any of you agreed with my comments last week about the selfish nature of the

But while we're taking stock of our ethics, let me point out another area where we have displayed tremendous selfishness: how we dispose of

unwanted PCs and cell phones.

The sheer volume of these thrown-away high-tech devices has become a serious threat to the environment. Worse still is the fact that we're only just starting to take the first small steps to face an issue that has been, out of self-interest, ignored by the computer industry and politicians for decades.

The problem is that PCs and cell phones, along with products such as televisions, cause serious pollution because of the neurotoxins and carcinogens that are used and released in their production and released when they are disposed of.

These pollutants include really serious long-term environmental concerns such as lead and beryllium that get carried into waterways and pollute the air through burning or dust released when high-tech products are broken up. The Environmental Protection Agency estimates that high-tech products are responsible for about 40% of the lead in U.S. landfills.

And that's just the disposal side of the equation. The

United Nations University (USU) in Tokyo conducted a study last year that looked at the environmental impact of PCs. It determined that a desktop computer and a 17-inch CRT monitor together require at least 529 pounds of fossil fuels, 48 pounds of chemicals and 3,306 pounds of water to manufacture.

A previous USU study also found that production of one 2-gram 32M-byte Dynamic RAM memory chip alone requires 3.7 pounds of fossil fuels and chemicals along with a staggering 71 pounds of water (about eight gallons).

So how much electronic gear do we throw away? According to the International Association of Electronics Recyclers (IAER), Americans dispose of 2 million tons of electronic products each year, which include 50 million computers and 130 million cell phones! By 2010, the IAER estimates that will rise to about 400 million electronic units annually.

So where do we throw our e-trash? Well, not here, not in our own country. Oh no, we have been dumping most of it, quite selfishly, in China.

Of course had the U.S. ratified the 1992 Basel Convention, an international treaty to control the export of hazardous waste, we would have had to deal with our own e-trash. The U.S. is the only developed country that hasn't ratified the treaty. Why? Because it was less expensive to destroy the Chinese environment.

At the same time, the pollution level we are experiencing at home from the small amount of waste that doesn't make it to China is easily ignored. Easily ignored even though not one person reading this would be happy about it in his backyard.

That's because most end users, consumers and businesses alike, are not aware of the problem. But you know industry and government have been aware of the issues for years. Now the toxins from ewaste are already in our local environments. They are damaging our ecosystems, the food chain and our children.

How can you, as IT professionals, change this? One of the simplest things is to slow the PC replacement cycle. Hold on to those PCs for an extra year, hell, for just six months! Start looking at where your cast off machines go and make sure it is an environmentally wise choice.

We also need to support legislative initiatives. Could we support a mandated surcharge with each computer purchase? Sure we could. But will we? Will we extend the life of PCs? Will we foot the bill to ensure that we damage neither the Chinese environment nor our own?

That all depends on how selfish we are. To date, our track record isn't looking good.

Confessions to backspin@gibbs.com.

### Net Buzz News, insights, opinions and oddities

#### By Paul McNamara

#### 'Net-style Nash Equilibrium

Five years ago, the first price-comparison Web sites were being hailed as

heaven on earth for penny pinchers and the fast track to Hell for online merchants who failed to establish and protect a unique reason for being.

That early assessment turns out to have been not so hot, says Michael Baye, an economics professor at the University of Indiana. Baye and his colleagues have undertaken an exhaustive analysis of price-comparison sites and what they mean for Internet commerce. Oh, it turns out that consumers are indeed getting more or less what they were promised — direction to bargains, lower average prices overall — and the price-comparison sites are doing just fine, witness the growing number of portals offering such services of their own. However, the predictions of brutally efficient markets extracting every last nickel of profit from sellers have proven to be less than prescient.

The whys are interesting, if somewhat confusing, at least to those of us who bluffed their way through college economics.

The Web site containing Baye's research — www.nash-equilibrium.com — features an enormous data dump that only an economist could fully appreciate. So we'll focus on just a couple of key points here.

Five years ago, the difference between the lowest price and the average price surveyed was 13%. Today, it's up to 18%, which would make no sense whatsoever if the predictions of cutthroat competition leading prices to the bottom had indeed borne out. Also over that span, the difference between the highest and lowest prices climbed from 32% to 45%. Again, not what those peddling gloom for sellers would have expected.

What happened?

"It's taken firms awhile to figure out how to coexist in the market," Baye says. "If you look at the early data it's very clear that firms didn't really understand the

nature of the game they were playing, and there was some movement toward the bottom [on prices]. But then over time firms have learned that to coexist in the market, they've got to use mixed strategies to keep their rivals from being able to systematically undercut their prices."

He calls the concept hit-and-run pricing.

"If my price changes every day or every week, you can't systematically know what price you have to charge to beat me," Baye says. "Firms have learned that the only way you're going to survive in this environment is to use hit-and-run pricing strategies and the consequence has been the increases in dispersion of prices" noted above.

Yet the consumer still manages to benefit.

"The fact that the average difference between high and low prices today is 45% compared with 32% in 2000 — doesn't mean that average prices are higher today; in fact, average prices are lower, largely because of growth in the number of online sellers," he says.

What we've got here is one of those Nash Equilibriums made semi-famous by Nobel Prize-winning economist John Nash before being made Hollywood famous by Russell Crowe in the movie "A Beautiful Mind."

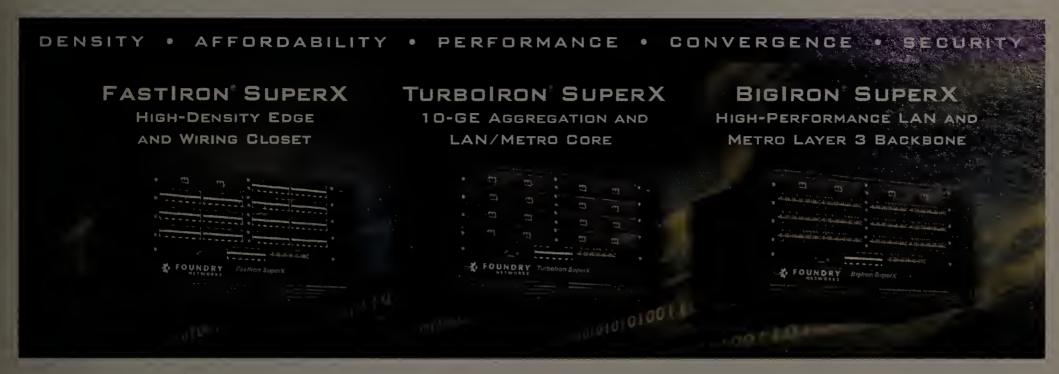
"Obviously to the extent that any firms' position in the distribution of prices changes over time, the information that consumers obtain from price-comparison sites becomes stale over time," Baye says. "So just because hypothetically Buy.com is offering the lowest price today doesn't mean that it's going to be offering the lowest price for that same product tomorrow or next week. If you want to get the best deal, you're going to have to continually go back to the price-comparison site, which is a happy thing for the price-comparison site. It's a happy thing for other firms, too, because they may be charging the best price the next time the consumer logs on."

To the non-economist, it's called a win-win-win situation.

Want to argue with the columnist or the professor? The address is buzz@nww.com.

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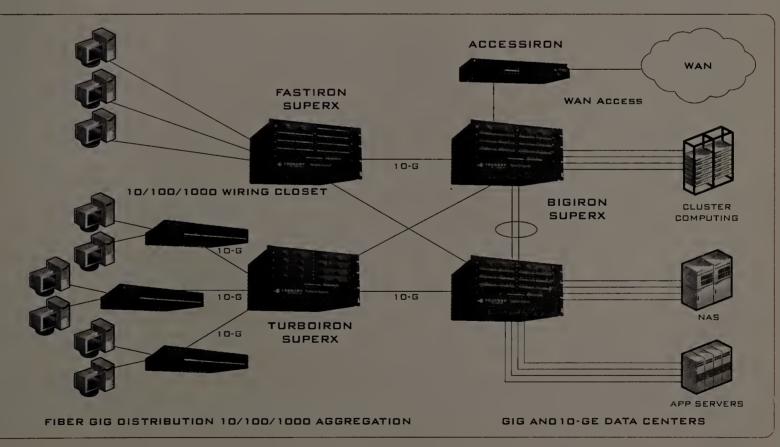
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The comparison presented above is based on the IBM eServer xSeries 365 (4x 3.0GHz Intel Xeon MP) result of 2616 conforming connections and Sun Fire V40z server (4x AMD Opteron 550) result of 4605 conforming connections on SPECweb99\_SSL benchmark, as of 12/08/04. SPEC and the benchmark name SPECweb99\_SSL are registered trademarks of the Standard Performance Evaluation Corporation. For the latest SPECweb93\_ISSL benchmark results, visit www.spec.org. 2Source: DH Brown Pricing Configurator dated 11/3/04. 4x 3.0GHz/8GB memory using 1GB DIMMs/2x 73GB (10K) disks/DVD/2 redundant power supplies/OS.

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